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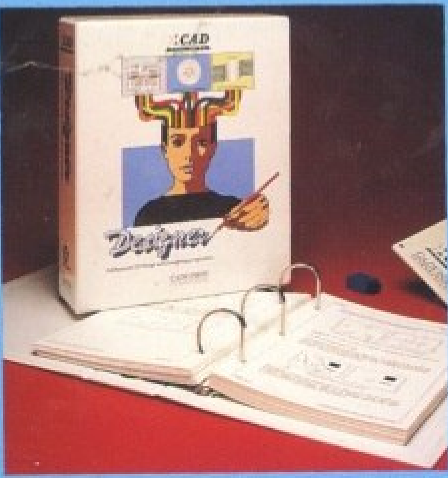
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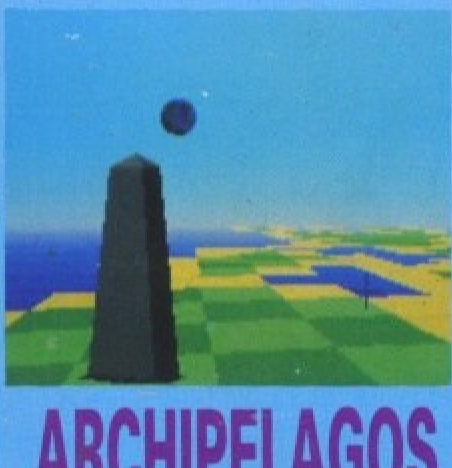
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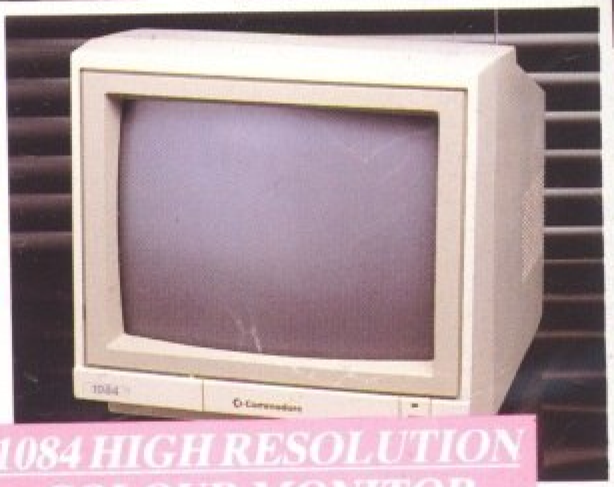
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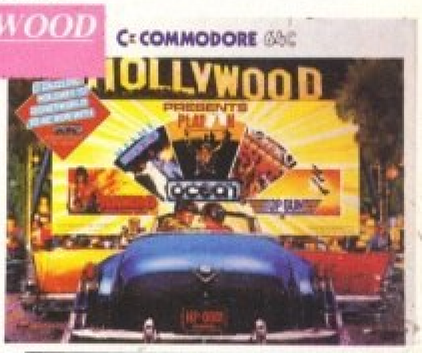
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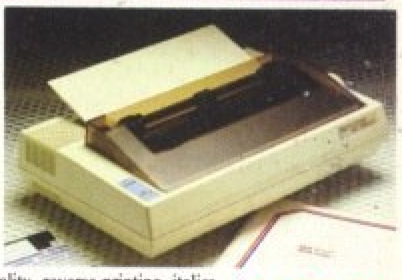


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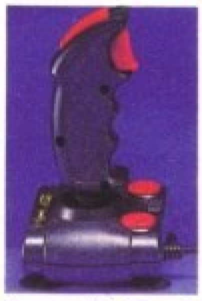
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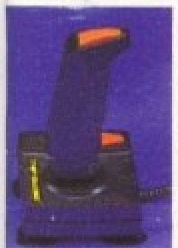
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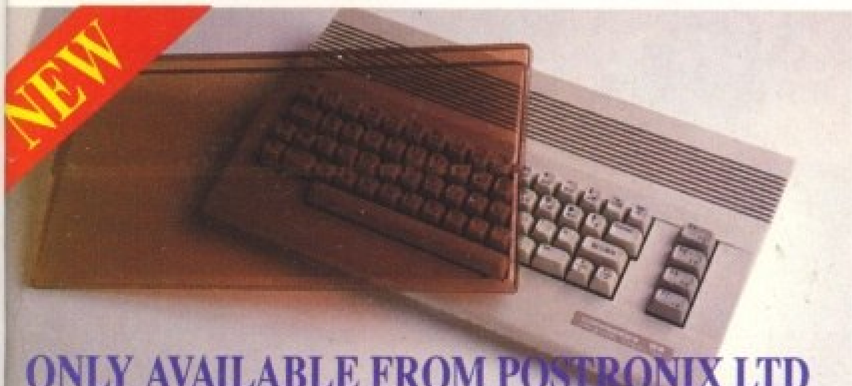
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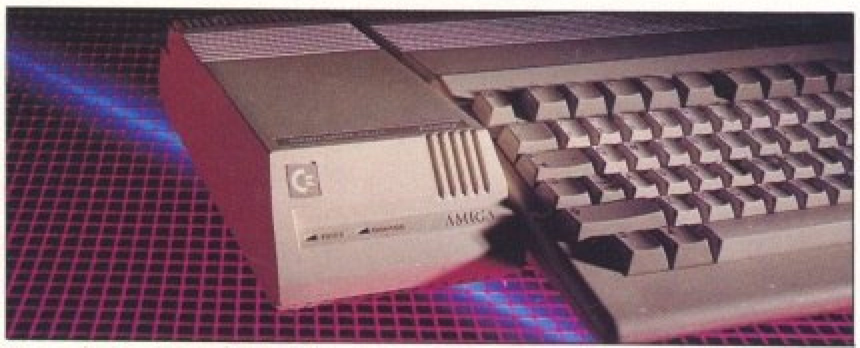
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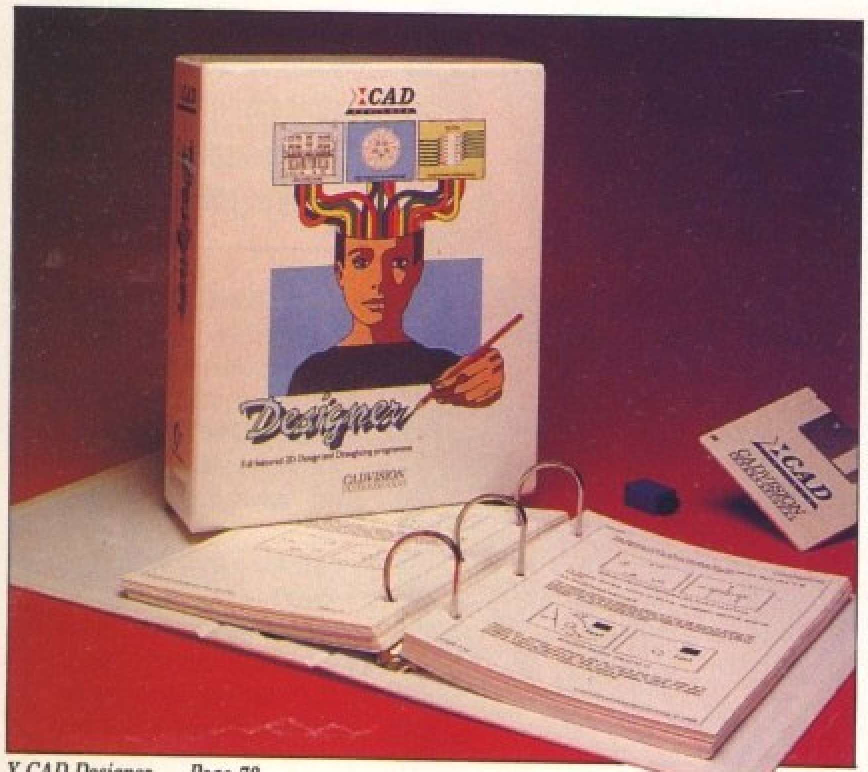
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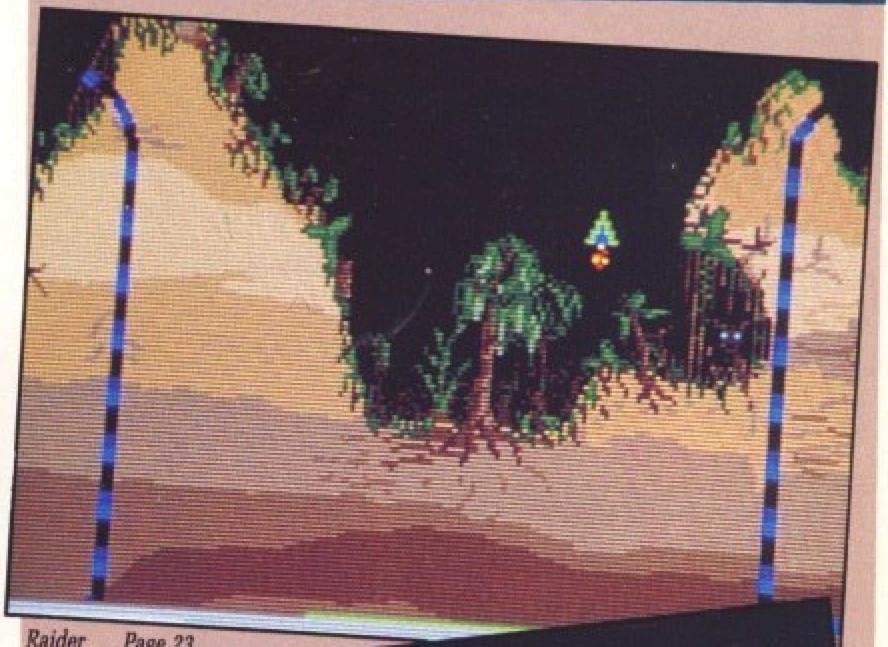


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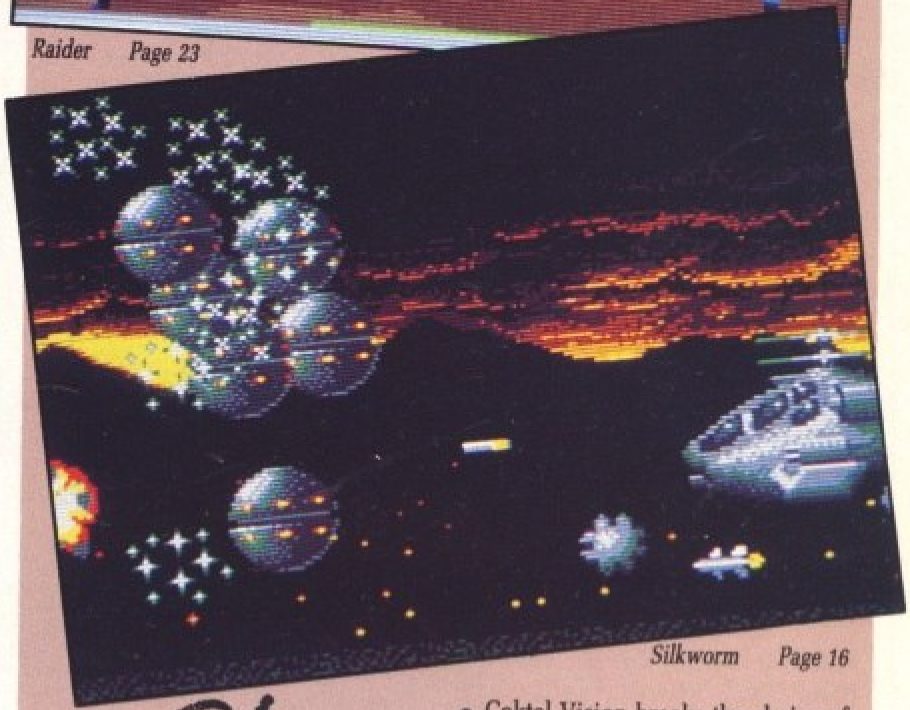
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Plus

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- Raider thrusts on to the glowing screen.
- Visit the magic land of Archipelagos.
- Beam proves the simplest games are fun.
- Aquatic action with Live and Let Die.
- Great reading and action with Battlehawks.
- Smooth scroll is back with Goldrunner II.
- Coktel Vision breaks the chains of Freedom.
- Bio Challenge evolves into robotic attacks.
- The facts about Hollywood Poker laid bare.
- Tank Attack: Board game or bored of the same.
- Code Masters slalom into 16 bit with Ski Sim.
- Pac-Land goes OTT on the cute and cuddly.
- The Real Ghostbusters get ported and slimed.
- Grand Monster Slam. Pretty sprites.
- Steve Davis gets to the end of CDS's cue.
- Last Duel – the plot sickens with shooting.

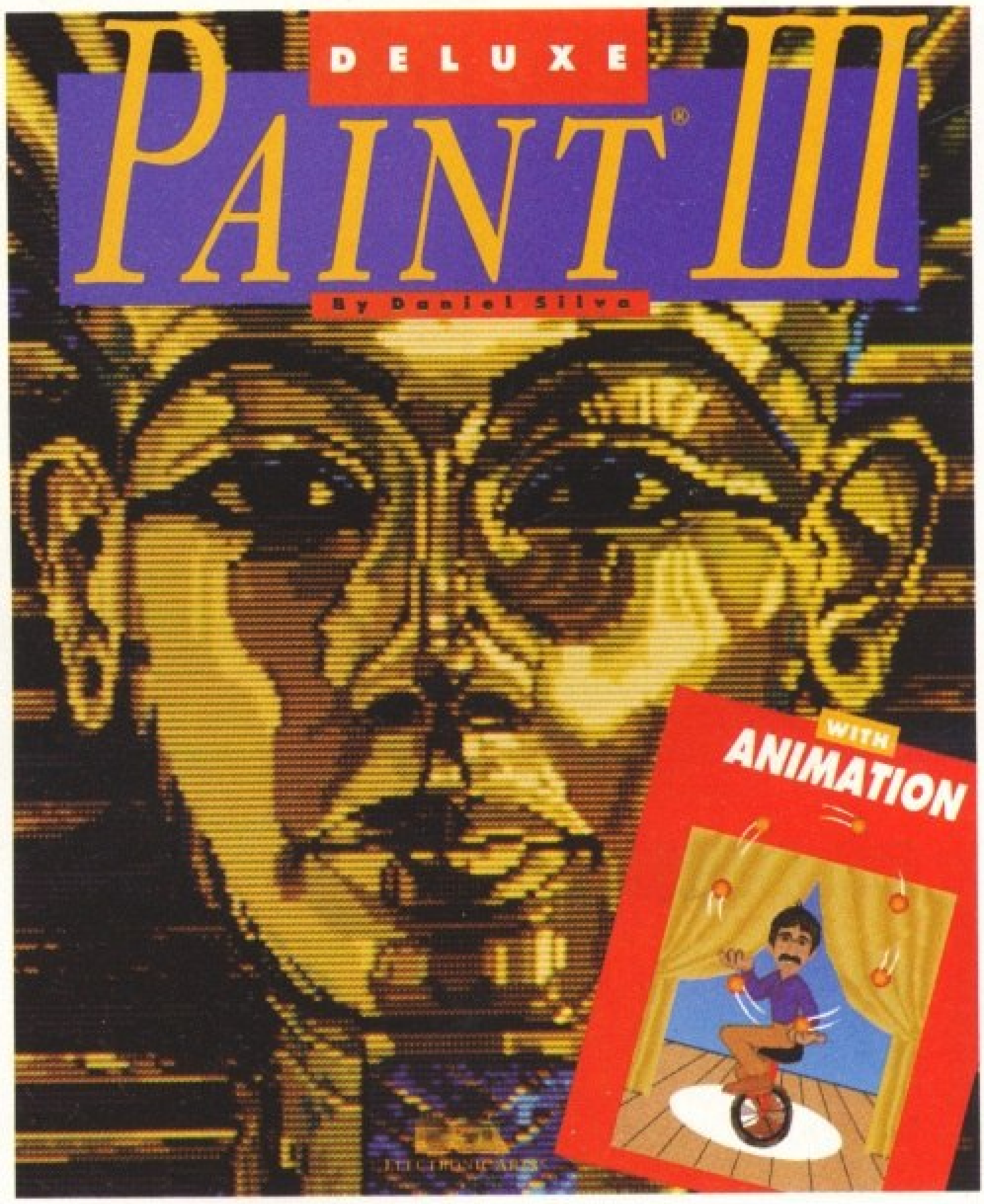
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DeluxePaint III also adds sophisticated features to the number one Amiga paint software: Extra-halfbrite support for 64 colours; direct overscan painting for desktop video; wrap and tint brush modes for special effects; better font support; improved compression; and many performance enhancements, including faster perspective. Product requires 1MB of RAM.



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AMIGA SCENE

Infocom goes west for Mediagenic

GO West. That was the command Mediagenic, formerly Activison, gave to Infocom, the world's number one adventure software house. So Infocom moved to the American West Coast.

Only a few of the staff made the journey – none of the game designers or developers. Some will be working on independent projects for Mediagenic. In essence all that will survive is the name.

Infocom has had a pretty rough time since Cornerstone, its venture into PC business software, failed, costing the company a lot of money. Despite turning out some dazzling text adventures it was forced to sell out.

A truly creative company often fails to fit in with larger corporate structures and, although you wouldn't think so from recent releases, some of the major talent left.

Authors like Steve Meretzky, Dave Lebling and Stu Galley will be following adventures of their own from now on.

Making your mind up

WORDPERFECT Corp was welcomed to the Amiga by those users who thought that having the best selling IBM business software on the Amiga would get the computer into businesses.

We were naive, three magic letters were much more important than clever disc drives, multi-tasking or memory configurations which were not stupid.

As a result PC WordPerfect sold thousands of copies and Amiga WordPerfect didn't. When IBM users got WordPerfect 4.2 we still had to settle for 4.1, placated by the news that when version 5.0 came out we would leapfrog the 4.2 stage.

But this didn't happen. WordPerfect claimed that 6.0 was much better suited to the Amiga and that would be the next release.

Finally the news broke. WordPerfect Corp in Utah had closed down the Amiga section. The programmers who loved the Amiga were moved to work on Apple Macs and others sent to work under OS/2. Only a couple of people were left to look after version 4.1 and sort out some lingering bugs.

We could blame the Germans; looking at the huge market WordPerfect translated its program into German, but it failed to sell.

We could blame WordPerfect; the version of Library was not what the Amiga market wanted and the word processor suffered from a high price. Either way screams from happy Amiga WordPerfect users provoked some response, and people moved back to the Amiga division.

We won't see 6.0, nor 5.0 but improvements to 4.1, gentle, steady refinements for one of the most important programs on the Amiga.



Amiga's Meteostat connection

WEATHER satellite pictures are now available for Amiga owners with the latest Microtext Teletext Adaptor and an ordinary TV aerial.

The pictures, which originate from sources such as MeteoSat, are transmitted on Ceefax but can only be received by a computer with a teletext adaptor and the relevant software.

New pictures are sent regularly and are presented as an index on the Amiga's screen. They can be downloaded by pointing and clicking the mouse. The picture is saved as a compact data file and the Microtext software can then be used to select them for display.

Microtext Teletext Adaptor costs £143.52.

Missing link no longer

OXXI will be distributing a Novell Network port for the Amiga. Scott Martin, the developer, describes the installation as pretty much plug in and go. This is a healthy addition to the Amiga capabilities. Coupled with Ameristar's Ethernet capability – in marketing not networking terms – these two facilities will go a long way towards making the Amiga appear more serious to people at larger companies.

This is an important development for the Amiga, since Novell is the high volume network tool for IBM owners. But it is not a peer to peer network, which is something that has more mass appeal for the Amiga.

This will come with some Decnet software, two versions of which are being written, one by Bob Tully of Syndesis in America and another by Paul Ockenden of VFM Software in Brighton.

Get weaving

DON Harding, a lecturer at Norfolk College of Arts and Technology (0553 761144), has produced a report on how to use the Amiga 500 and Delux Paint II to design furnishing fabrics.

Its useful information can also be adapted for the easier design of fashion fabric.

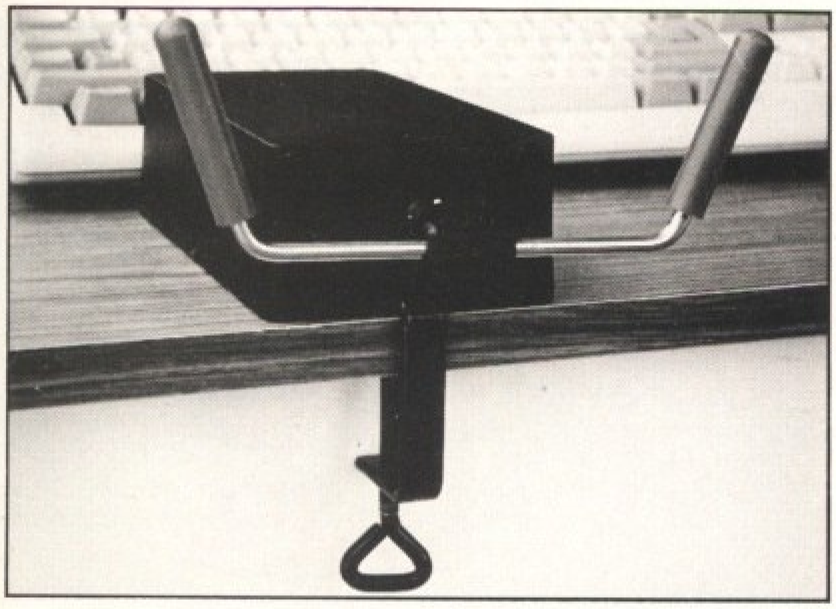
Six hard discs to be won

Ideal Hardware and *Amiga Computing* are working on an amazing competition which will offer every reader a chance to win one of six System 2000 hard drives for the Amiga 500. This beautifully designed peripheral autoboots without having to upgrade your Amiga. The high-speed 40 meg drive would normally cost £573.85 and is a really good buy at that price. But you can kit your Amiga out with one for absolutely nothing if you win. Full details will be published in next month's issue of *Amiga Computing*. Don't miss it.

Wait for it

LATEST estimates are that the new Amiga 2500 could be available in the next two to three months.

It will be a straight upgrade from the existing A2000 including a 14MHz 68020 CPU upgradeable to 25MHz with 68881 or 68882 Math co-processor and up to 4Mb of 32 bit ram.



Now go fly that table

VOLTMACE (0462 894410) has completed a deal to produce a new yoke-style joystick for the Amiga. The Hertfordshire firm bought the design of this proportional flight simulator joystick from its developer, Incontrol of Cambridge. It will sell it under the name Deltabase A.

"The new acquisition is set to become the flagship and revitalisation of Voltmace's ageing joystick range", said a spokesman.

The Deltabase A is an analogue joystick specially designed to resemble the flight control joystick of an aircraft with twin handgrips which rock from side to side for aileron movement and move backwards and forwards for climb or descent. It clamps on to the edge of a desk or table and is plugged into port two of the Amiga.

Primarily designed for Flight Sim II version 1.1 or later, the joystick is activated by pressing the J key. It costs £29.95.

Four shows in one

AMIGA owners will have a treat in store later this year when an ambitious new computer show is launched.

It's The Computer Shopper Show, to be held in the Great Hall at Alexandra Palace from November 24 to 26. Sponsored by Computer Shopper magazine and organised by Database Exhibitions, it will hit a huge market by combining four traditional shows from the festive season into one event.

The Computer Shopper Show replaces the Commodore Christmas Show, the Atari Christmas Show, the Amstrad Computer Show and the Electron & BBC Micro User Show. It will combine all the new products, special features and bargains from these events into what is being billed as "the world's largest computer shopping spree".

Chains like the 500

THE Amiga 500 is turning in good results in the High Street. Major chain store group Laskys has decided to put the machine into 32 of its stores, and after the major advertising and marketing boost of last Christmas John Lewis group is also to put the Amiga in 20 of its outlets.

The Allders chain store has increased its take-up on Commodore products thanks to the success of the Amiga 500 in its stores last Christmas and the machine will be going into world-famous toy shop Hamleys on London's Regent Street.

Catalogue companies Gratten, Argus and Littlewoods have also decided to stock Commodore products.

Big push in the US

AIMING to make its US business size up to the success it has had overseas, Commodore International has appointed a former Apple Computer man, 42-year-old Harold Copperman, as president and chief operating officer for its American operations.

"Our overseas operations have experienced strong growth in sales and profitability and the hiring of an individual with Harry Copperman's experience and track record is a key element in our plan for building a strong US operation", said chairman Irving Gould.

● *Worldwide sales of Amigas have now topped the million mark, with 60 per cent going to the European market.*

Now listen to this

PROTEXT can now speak. Arnor is working on a version of Protext, its top-selling word processor, which uses the Amiga's ability to talk.

Designed as an aid for the blind, Arnor believes this is the first such program for the Amiga. Talking Protext is still in development and needs some tidying up before it can be sold. One thing which cannot be altered is the built-in American accent.

Desktop hard copy

A COMPANY which will typeset pages from any Amiga DTP program you care to mention, The Text Formatting Company has installed a Linotronic 200P/model B with a full range of Adobe PostScript fonts. So next time you have something really important to print give TTFC a call.

It is also the UK distributor for AmigaTeX, the typesetting language designed by computer genius Donald Knuth to give the very best output on any system. For more details call The Text Formatting Company on 01-806 1944.

Ariolasoft links with Mandarin

MANDARIN Software (0625 878888) whose Amiga titles include Lombard RAC Rally, Time and Magik, Pioneer Plague and Lancelot has just completed a deal with giant German distribution house Ariolasoft.

The agreement means Ariolasoft effectively becomes Mandarin's German partner and will be responsible for marketing all the UK software house's products through its 2,000 strong dealer base.

"Ariolasoft will undertake the advertising, promotion, translation and distribution, in fact everything, on behalf of Mandarin in Germany", said Annie Creasey, Mandarin's head of exports.

"Mandarin already has a profile in Germany thanks to the success of both Pioneer Plague and Lombard RAC Rally, but we believe that this formal link-up will increase our presence substantially in what is the number one market in Europe.

"This is stage one of our corporate plan to ensure that Mandarin will be a truly European force by 1992".

Marketing director of Ariolasoft Willie Carmincke told *Amiga Computing*: "We are most impressed with Mandarin's products and look forward to a long and fruitful working relationship with this leading British entertainment software house".



Musical Amiga hits cinema screen

LYNNE Hamilton is an Amiga user you may not have heard of but you might have heard her singing. Her single, On the inside, is the theme for Prisoner Cell Block H, the cult Ozzie soap where the acting is only a little less wooden than the set. The tune has already topped the Australian charts where it was Number One for four weeks.

Readers who are sharp-eyed TV viewers may have noticed an Amiga 1000 being used in the programme Sledgehammer to trace a missing girl. Perhaps the best performance by an Amiga will be heard at the cinema.

Glimpsed in a scene from ITV's Saturday Night at the Movies was an Amiga being used to compose the haunting music for the new Batman movie.

The Amiga isn't going to do all the Batmusic itself, there will be a little help from Prince.

Marketing boss quits

A MAJOR shake-up in Commodore's marketing department has coincided with the shock news that marketing manager Dean Barrett has quit. Both sides stressed that the end of his two year association with Commodore was amicable.

Managing director Steve Franklin told *Amiga Computing* he was looking to fill not only the place left by Barrett but also two other positions created by the new marketing structure. This will split the marketing department into two divisions and was on the cards before Barrett decided to go.

"These plans have been forced on us by the growth of Commodore over recent years and the fundamental growth we expect next year. The marketing department is being divided into two divisions to cope with this", he said.

"Dean's decision to leave was very much an amicable move. I did not want him to go because he has done a fantastic job for us but when someone decides on a career change there is nothing you can do. I wish him all the luck".

Barrett has left to pursue what he says is a long-standing ambition to go into publishing. He has taken up a job as marketing manager for publishing house EMAP.



Steve Franklin ... three posts to fill

Prizes for DTP skills

WITH desktop publishing growing in importance for Amiga owners, there is a chance for them to display their newfound skills and win prizes.

The 1989 Desktop Publishing Awards are once again being organised by Database Exhibitions and Pira, the Paper and Board Printing and Packaging Industries Research Association.

Winners will be announced at the Desktop Publishing Show which runs from October 4 to 6 at the London Arena.

Judges for the 1989 awards will be executive editor of the Independent Michael Crozier, production director of Macmillan Publishers Michael Barnard and author of Design for Desktop Publishing, John Miles of Banks & Miles.

Categories are for the best magazine, newspaper, book, technical manual, in house company report, brochure, leaflet and newsletter. Awards will also be made for Desktop Journalist of the Year, Desktop Editor of the Year, Desktop Designer of the Year and the most original use of desktop publishing.

Further details and entry forms are available from Elizabeth Strutt, Pira, Randalls Road, Leatherhead, Surrey KT22 7RU. Tel: 0372 376161.

Magic touch of animation

A NEW animation, editing and special effects product which has scored a big hit in America is now available in the UK.

ANIMagic is designed for the Amiga by Aegis of Santa Monica, California, whose UK agent for the product is HB Marketing (0895 444433).

It works with VideoScape 3D, Deluxe Paint III and most popular paint and animation programs to produce impressive special effects.

Digital video effects produced by ANIMagic include spins, page turns, venetian blinds, confettis, strobes and unusual colour and titling effects.

These animations can be edited, enhanced or spliced together and the package is intended for presentation use in business, video production, education, trade shows and other applications which demand special animation effects.

ANIMagic costs £69.95.

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Amiga Arcade



Pete James (left) and a bespectacled Antony Taglione have been burning the candle at both ends to complete Bloodwych

Back in the dungeon

WITHIN the beautiful land of Bloodwych, somewhere north of Imageworks, lies a large, rambling castle with a labyrinth of dangerous tunnels. Dangerous because it contains strange beings, some friendly, some extremely hostile.

As is usual in these places, there are magic crystals – four in this instance. Two can be used to banish evil from the land, the other two will ensure it reigns forever. You control the destiny of the land, although this is not a burden you have to shoulder alone.

Bloodwych is best played by two people who roam the 3D tunnels independently, either teaming up with a common aim or as adversaries. The human players are helped by a party of computer-generated characters, a bit like Dungeon Master but with more shooting and less messing. As you can see from the screenshot, Bloodwych is a real 'doozy in the graphics stakes.

The project sees the signing of Antony Taglione and Pete James to the Imageworks label, which is rapidly becoming the prestige 16 bit label.

Antony and Pete formed Starlight Software, famed for Red LED and other chart-topping 8 bit games, but for their 16 bit debut they wheeled out something really special and so looked to Mirrorsoft to ensure the success that the game deserves.

Gallup Chart

		Last Month
1	Populous Electronic Arts £24.95	NE
2	R-Type Activision £19.99	10
3	Falcon MirrorSoft £29.95	1
4	Kristal Addictive £29.99	7
5	Lombard RAC Rally Mandarin £24.95	3
6	Super Hang On Activision £19.99	2
7	Sword of Sodan Gainstar £24.99	9
8	Operation Wolf Ocean £24.95	RE
9	War in Middle Earth Melbourne House £24.99	6
10	Blood Money Psygnosis £24.99	NE

Screen 7 steels itself for action

DEATH or glory shoot-'em-ups are popular all year round, the long hot days this time of year doing little to stem the game-player's thirst for blood. Screen 7's vegetable in the pot this summer is Steigar, which, it says here, is "kind of arcade quality".

Steigar, the hero of the game, is an ex-mercenary Ramboesque character who has been trained by the US Navy as a hit-and-run helicopter pilot. Only the senior command know that he is no ordinary recruit.

It may be a terrorist training camp that needs wiping out, or it may be a military dictatorship that needs persuading otherwise. When the odds seem impossible, Steigar is let loose, dealing death and destruction.



Steigar, hit and run action for shoot-'em-up freaks

Screen 7's follow-up to Steigar will be High Steel, for which a head for heights looks to be a must. There you are balancing precariously on a narrow steel girder trying to build a skyscraper when all these spitters, crawlers and metal-munching gremlins start chasing you.

The sixth floor is complete. The huge crane delivers the next girder as a brick smashes into your hard hat. Things might not be so bad if you could just find your sandwiches ...

Steigar is out now at £19.99, High Steel very soon at the same price.

All the latest news on the games software scene

The Sales Curve goes walkies

REVIEWED THIS MONTH

Percentage scores attained by each game.

96 Silkworm
94 Archipelagos
93 Beam
93 Live and Let Die
88 Battlehawks 1942
88 Goldrunner II
87 Freedom
83 Bio Challenge
81 Steve Davis World Snooker
75 Hollywood Poker Pro
73 Raider
71 Tank Attack
67 Artura
64 Fright Night
64 Grand Monster Slam
63 Last Duel
63 Mayday Squad
62 Advanced Ski Simulator
62 Jug
52 Airball
49 Pac-Land
33 Realm of the Trolls
24 The Real Ghostbusters

MAX HACKS

- Backlash
- Chuckie Egg II
- Cosmic Pirate
- Dark Castle
- Falcon
- Gauntlet II
- Goldrunner
- Joan of Arc
- Lombard RAC Rally
- Pac-Land
- Revenge of Doh



The Sales Curve and Random Access

BEHIND the quiet facade of a South London office complex internal wranglings are stirring up a nest of aliens. The bone of contention is a dog called Ben, friend and full time companion to Jane Cavanagh, boss of international software sales and marketing company, The Sales Curve.

Jane rescued Ben a short time ago from a dogs' home and since then he has hardly left her side. But the workforce, which includes all members of top development house Random Access, has been told either the dog goes or they will have to find other premises.

"It's criminal," says development manager Dan Marchant, seen here posing behind Ben. "He's such a quiet dog. He just lies around on the office floor all day. He doesn't even get in *our* way, let alone anybody else in the building. We've only ever heard him bark once".

The Sales Curve and Random Access are not unduly worried by the ultimatum. "We were just about to recruit two new programming teams", Dan smiles, "which would have meant leasing a much larger suite anyway".

The Random Access team is currently six strong. Ronald Pieket Weeserik (centre, yellow shirt) is the Amiga expert. He has just finished programming Silkworm for Virgin Games and is now immersing himself in Ninja Warriors. In his spare time Ronald likes to mess with music and has written a six channel player for the Amiga.

The score for the first level of Ninja Warriors has already been transcribed from the arcade machine. Ronald put his player into action and the Sales Curve office came to a standstill while he treated us to a four-and-a-half minute aural massage.

Even project manager Simon Pick (back row, left), whose job it is to crack whips (walnut) and make the tea, stops work and freaks out when Ronald struts his stuff.

Technical boffin Matthew Spall (centre row, left) has built a special cabinet which lets the three screen coin-op game run on three Philips monitors. Graphics artist Ned Langman (back row, middle) has ported and shrunk all the graphics and is in the early stages of touching them up for the Amiga.

With programming oneupmanship rife, especially between Ronald, ST wizard John Croudy (back row, right) and 16 bit all-rounder Alan Jardine (centre row, right), everything looks set for a big Christmas release. Left out of the 16 bit action but still in the Ninja Warriors picture (front row, right) is C64 programmer Warren Mills.

SNOOKER games seem to be popular, with Firebird's 3D Pool imminent from Nic "Orlando" Pelling and a new game due out for Christmas from Archer "IK+" Mclean which shows several views at once as opposed to Nic's player's-eye view.

You'll also be able to experience some of Archer's handiwork in the help he has given to his mate Ed Hickman with the Amiga conversion of Microstyle's RVF Honda motorbike racing game.

EXCLUSIVE

TANK ATTACK

Clank clank clank wheeeee bang

GENERAL Montgomery stand aside. What with digitised noises and animated tanks, they'll be sending me a draft card next. It's a board game. No it's not, it's a computer simulation. Well, it's a bit of both really.

The box contains a board – handy to keep track of the game – a disc, 48 playing pieces, a manual and a key sheet. Four superpowers are at war; two, three or four players can run a tank corps each and do the predictable wargaming take-the-enemy-HQ thing.

Alliances made, it's to war. Information is found in an onscreen newspaper, the War News, which appears before a move and reports the day's fighting. Weather forecasts are to be found here, too.

There are two kinds of armoured car and three types of tanks, giving a firepower variance of phutt to boom, which adds to the realism of a sometimes confusing game. Jumping from screen to board and back is annoying – a screen which showed the map would have been nice.

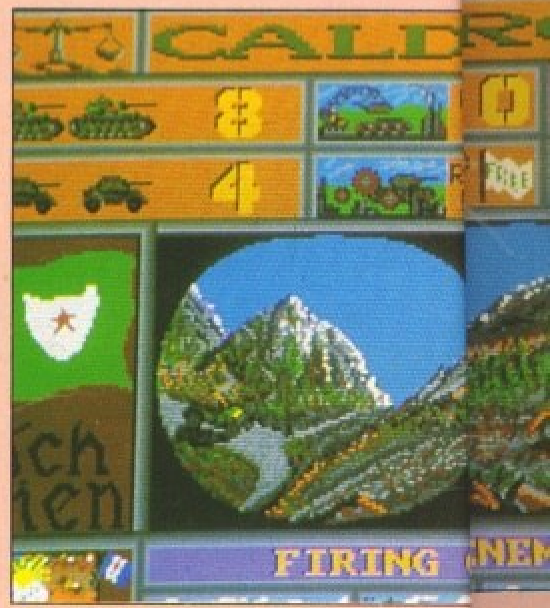


This is what we're fighting for. This is it boys, this is war

Anyway, on to the reason we're all here: The payoff. There is no point in playing any military simulation if there isn't a kill at the end. The kill in Tank Attack is the gratification that your strategy and planning has worked. In a refreshing change from "Take the pieces off the board" or "You have been defeated", Tank Attack rolls up its sleeves and puts you right in there.

The central window of the display becomes a pair of binoculars, and you can view the action as it takes place. A tank rumbles into view and fires a salvo at an enemy tank. It's here that the Amiga does some work. The range, conditions and type of tank or armoured car are worked out, along with the trajectory and the probability of a miss, hit or wipe out.

The ominous rumble and clank of the tank and the explosion as the shell bursts are generations on from the pathetic pops and bangs wargamers on other computers are used to. With the Amiga connected to



Better than shelling peas

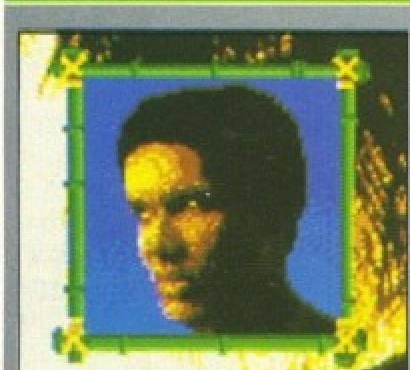
the hi-fi and the volume turned up a twidge, my next door neighbour and her cat surrendered.

The screen has info about which country is playing plus the status of its units and battlefield data. It is possible to repair damaged vehicles and even rebuild destroyed ones.

The central section of the screen alternates between the bins for watching tanks shoot it out and a teleprinter which tells you how much

FREEDOM

A revolution on every disc



The slaves are revolting

Freedom
£19.95
Coktel Vision

Sound	
Graphics	
Gameplay	
Value	

Overall – 87%

ONCE again French programmers have come up with something original, a game set in a flourishing slave colony in the 18th century – a plot which belies the inlay card picture of a negro breaking his chains while wearing a very 20th century pair of jeans. Revolt is in the air, and you are revolting. So are the jeans, but that's another kettle of chromosomes ...

Before you get started there is a blast from the past to deal with – a colour chart, one of the oldest and most effective anti-piracy devices for unprotected discs (á la JSW, circa 1983).

You use the mouse to select the colours of two given squares from 3,684 possibilities. Make a mistake and the computer re-boots. The colours are displayed on screen in words, so there are no problems for those editors of Amiga magazines who happen to be colour blind.

There are three levels of difficulty. You can be defiant, rebellious or fanatical, with varying degrees of skill at lock-cracking, fire-starting and thing-climbing. You can even make the game easier by weakening your opponents – two masters, three managers, three stewards, three foremen, a Catholic priest, a Jesuit priest and an animal doctor.

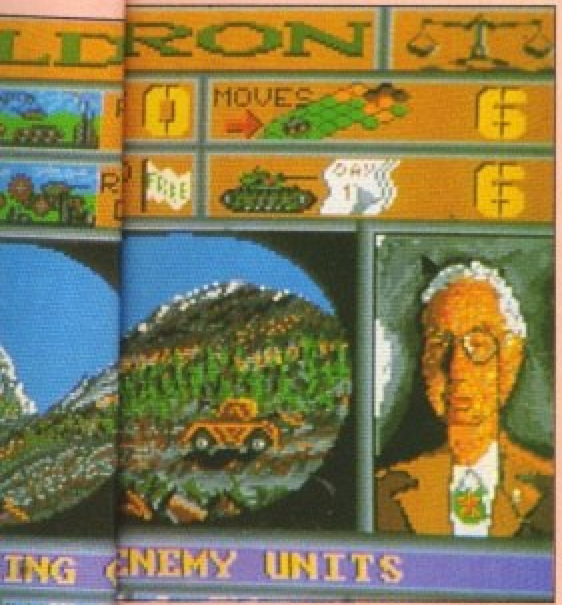
Once the opposition is suitably fixed, you spend your time rushing around talking to the four slave leaders, persuading all 204 slaves to join



Drumming up support

the revolt, getting rid of guard dogs, bending the ears of the witchdoctor and the medicine man, foiling the priests' plans to stop you, starting fires, breaking into buildings, finally reaching the road to freedom by killing one of the masters or burning down buildings and crops.

If the local militia is aroused, either



damage or destruction was wreaked.

The lower part of the screen is the command panel, with highly original and conversely cute animated icons for unit movement, attacking the enemy HQ and battlefield options. Clicking an icon of your leader passes control of the game on to the next player.

After the War News at the start of a move you give orders for movement, after which you can fire on any units

Tank Attack
£24.99
CDS

Realism
Strategy
Gameplay
Value

Overall – 71%

which are close enough. If you attack the enemy HQ, it goes up with a very satisfying bang.

Because the computer takes no part in the actual game, acting rather as a surrogate gameboard and calculator, some of the decisions must be made verbally by each of the two to four human players. For instance, you must announce which of your units will fire before progressing into battle.

The pass-on icon of your leader is always active, which means that if for strategic reasons you want to force another player to move, you can skip your turn. Nice.

All in all, Tank Attack is a fairly standard strategy wargame with a few nice touches. The digitised sound, the animation and the animated icons set it aside.

Keith G. Pomfret



by your tasks not being completed or the plantation bell being rung, the revolt fails.

You normally see a large scale plan view of the compound. Pressing the mouse button magnifies the area you are in and allows you to crack locks, start fires, persuade slaves and so on.

The Pathfinder option pinpoints enemies nearby and allows you to pick fights with them. You can review your achievements or seek advice from a nearby sorcerer. If you are very, very lucky a mermaid will appear and make time slow down.

Fighting is standard beat-'em-up fare as seen many times before, although it is well done with good animation, including moving backgrounds and foregrounds.

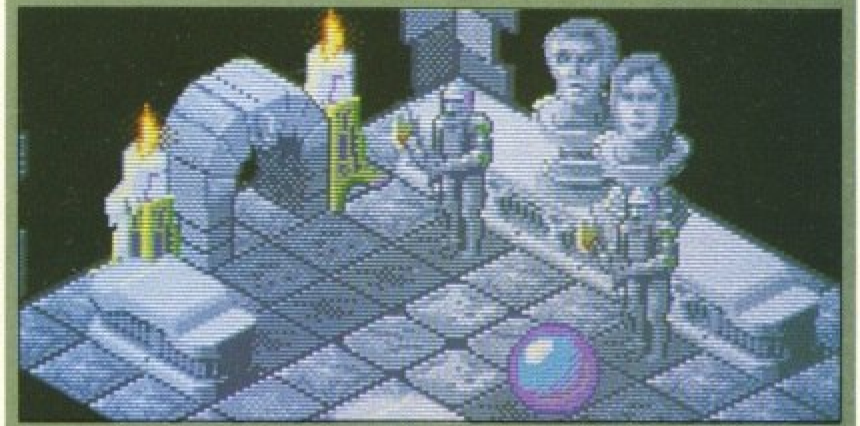
Control is a little bit awkward if you're using a joystick – you need one hand on the stick and another to press the six keys which control the various thrusts and parries. One unusual variation is a fight against four guard dogs.

The garish graphics are superb. Sound is excellent, with some realistic effects, especially dogs barking and a suitably African percussion passage whenever a new section is loaded from disc. Boom-dada boom-dada boom-dada ...

Alastair Scott

AIRBALL

Pump up the volume



A couple of knights on the tiles

IN this original twist to an ancient type of game you start life as a flat balloon on a bicycle pump which slowly blows you up. By guessing wildly you jump off before you explode, hopefully filled with as much air as possible, and then make your way around the Old Castle to find various bit and pieces.

Once you've found them you make your way back to the pump and follow the instructions of the wizard. I keep deflating or exploding before I find the first object, so I am doomed to wander the castle and write reviews forever.

Seriously, it's good to see ye olde isometricke view back, even if many joysticks are not too keen on diagonal movement.

Some of the collision detection in Airball is rather approximate – walking into the wall next to a door will miraculously transport you through it, and you pick up gold bars and diamonds well before reaching them, even through obstacles. You are supposed to press the spacebar to pick something up, but looking at the object in question will suffice.

The stationary and impeccably collision-detected baddies are numerous – metal spikes, sharp bits, spiky balls, pointing fingers on stands, staircases which you keep falling off... There are no cute little mechanical soldiers, no spiky balls which drop from the ceiling, no falling portcullises, but the similarity to Knight Lore is remarkable.

First impressions are good: A demonstration showing the wicked witch turning you into a balloon, a colourful loading screen, a good attract mode screen which allows you to switch between keyboard and joystick control – keys are much easier – and a high score table with giant gothic lettering.

There is excellent music which plays throughout, which can be turned up or down using the cursor keys. Sound effects are almost non-existent. An option allows you to move the whole screen up and down with the numeric keypad, and stops you taking the back off the television to find the Vertical Hold control.

It's a rare old game. The graphics are large and colourful and stationary. Movement and swapping between screens is smooth and quick. There is a certain novelty value in the bursting balloon, but it soon wears off. Airball quickly vanished into the murky depths of my disc box.

Alastair Scott

Airball
£19.95
Microdeal

Sound
Graphics
Gameplay
Value

Overall – 52%



Roll up, roll up. Oh you can't

SILKWORM

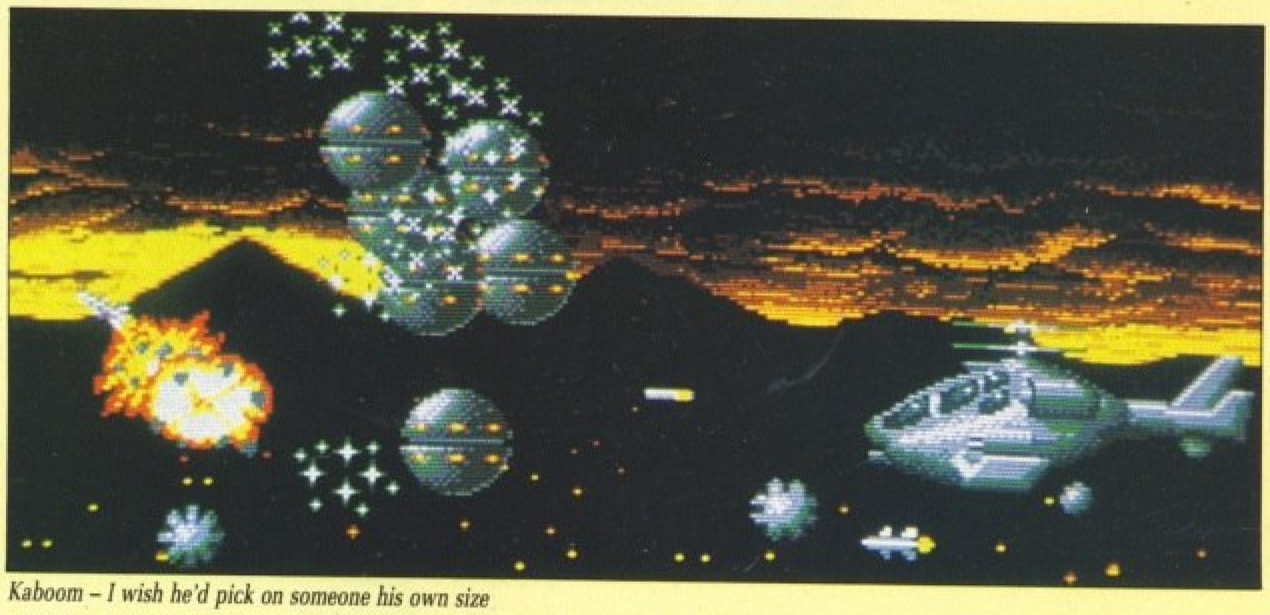
Awesome, totally awesome

ONE of the first things that sold the Amiga was its capability for really deep, involved games. You know the sort of thing – being stuck on level 18 after six weeks play and not an earthly clue as how to get the Lost Amulet of Gronk. Very few people realised that an Amiga could play a darn good game of Scramble, too.

To call Silkworm a version of Scramble is like calling an Amiga a QL. True, they have a few things in common, but one is the logical extension of the other.

Where Scramble had a weedy peashooter and a supply of party-popper bombs, Silkworm has got a vastly over the top mini-missile system coupled with an equally outrageous bombing method. We're not talking a few wee pops and crackles here, it's all-out annihilation time.

Because Silkworm is an arcade conversion – a Sales Curve production programmed by Random Access for Virgin Mastertronic, incidentally – there isn't much of a plot, and what little there is is completely unnecessary. An aggressor – who shall remain nameless, but whose craft look not dissimilar to MiGs and the like – has decided that it is time to get aggressive.



Kaboom – I wish he'd pick on someone his own size

The allied forces are caught rather on the hop, all they could muster was one helicopter and one jeep. These aren't standard issue craft, but highly manoeuvrable experimental ones with firepower equal to several destroyers put together.

The helicopter is fast and agile; there must be some use for the jeep, but darned if I can find it. It's probably the one for experts who can get the hang of its aiming system.

Basically, Silkworm is a scroll from right to left job. That's where the Scramble similarity comes in. Waves of murderous aircraft fly at you in formation and the idea is to mow them down before they perform the cut-the-grass *(coup de grace? Ed)* on you.

You have a rapid fire capability, which is certainly adequate, but with the addition of a good autofire stick it becomes very adequate indeed.

Various things shoot SAMs at you. These need some nifty manoeuvres to avoid. Some swine even have the audacity to lob fragmentation bombs, which can cause a lot of damage to the enemy if shot at the right time, and even more damage to you if not shot at all.

A counter keeps track of how many things you've done away with. When that reaches zero a large "Goose" helicopter forms which will give a tasty bonus if shot. This usually takes the form of a double fire rate which goes from the merely blistering to the quite frankly ridiculous.

As you pick up more things, you

LAST

Let me tell

THE Golden Tribe of Bacula have overrun the twin planet Mu and taken captive the beautiful Princess Sheetazzzzzzzz... Just who is the frustrated sci-fi fantasy writer who thinks up this crap? I could do better myself. In fact I think I will.

The 40ft high Flavians of Flatulence have kidnapped the sister of the High Lord Tebbo of the planet Jobcreationscheme. Only you can save the universe by getting on your bike and destroying everything in sight.

This will convince the Flavians that you are indeed a force to be reckoned with and they will apologise, return your sister and probably offer to repaint your house as well.

No matter how it is described, the plot boils down to the "switch off your brain and shoot" variety, with the currently in vogue optional extra weapons. Two players can play together, one driving a car, the other flying a hoverplane. When only one person is playing, he or she alternates between the car and plane on different levels.



The things I do for a princess

You travel up a series of roads, through jungles and across deserts towards something the resident aliens take offence at you seeing. Since flying around the locals is not offered as an option, your only recourse of action is to explain matters to them with a subtle blend of diplomacy and deadly bombs.

As it always does, the dual player option adds to the enjoyment of the game. However in Last Duel this is only achieved by having two separate games being played on the same screen at once with little cooperation or competition. Later on both players fly almost identical ships with the inevitable "Aargh! Which one is me?!" problems.

At the end of every level there is the customary larger than the average alien creature to kill. This can take the form of several barely-animated segmented aliens or a nasty creepy-crawly. Killing them is a positive pleasure.

Once these have been dispatched you are treated to a well drawn scantily-clad young woman chained to a wall, crying "Save me!" It looks nice. Ahem. But it's very, very tacky.

The graphics are reasonably good,

AMIGA COMPUTING **Supreme**

progress in rank to the maximum of Air Marshal, or similar. The most handy, and certainly the most common acquisition, is the shield.

This appears when a landmine is shot, and it gives 10 seconds of invulnerability. If you try to pick up a second shield, or shoot one often enough, there is the largest, loudest and brightest smart bomb effect ever seen. The same effect happens when the end of level biggy disappears.

The sound in Silkworm is not merely heard, it is experienced.

There's an ever-so-slightly nice parallax scroll and the backgrounds are really beautiful, despite the fact that they take very few seconds to load with Random Access's fast loader routine.

Another thing which is really impressive is that occasionally tiny squadrons of helicopters fly past in the distance or aircraft carriers launch fighters in the background. These are totally harmless and occur even when the screen is full of sprites and bobs.



Making light work of heavy metal

Sprites are used to their limit – just when you think there are more than are possible on the screen another 20 or so appear, all bent on causing you harm.

There are more than enough levels (13-ish, if my memory serves) and the programmers have added bits that weren't present in the arcade original, including an end sequence. And where else would you find a Thunderbirds Mole appearing in the middle of a battle?

Although the start is easy, things soon got so hot that I started seeing things moving behind my eyes. It was either the game or the half pint of Old Java coffee interacting with the adrenalin. Either way, Silkworm is a refreshing, very pretty blaster. It's got to be in your collection. Buy it.

Stewart C. Russell

Silkworm
£19.99
Sales Curve Virgin

Sound
Graphics
Gameplay
Value

Overall – 96%

DUEL

you a story



Pah! He's not going to stop me

if a little slow. The car looks like a Sumo wrestler with a bun on his head, but otherwise everything is unremarkable, with the possible exception of the organic-looking aliens on later levels.

With vertical scrolling routines lifted directly from LED Storm, this game seems to have been knocked up pretty quickly. The gameplay is workmanlike, if not entirely exciting. There are a couple of annoying bugs and thoughtless omissions, such as your spaceship not actually exploding when hit by enemy fire, just reappearing moments later at a different place on the screen.

At the end of the day we have nothing new: Fight your way up the fortified landscape, shoot all and sundry. The different levels certainly bring variety. Staying interested long enough to see them is another matter.

John Kennedy

Last Duel
£14.99
Capcom

Sound
Graphics
Gameplay
Value

Overall – 63%



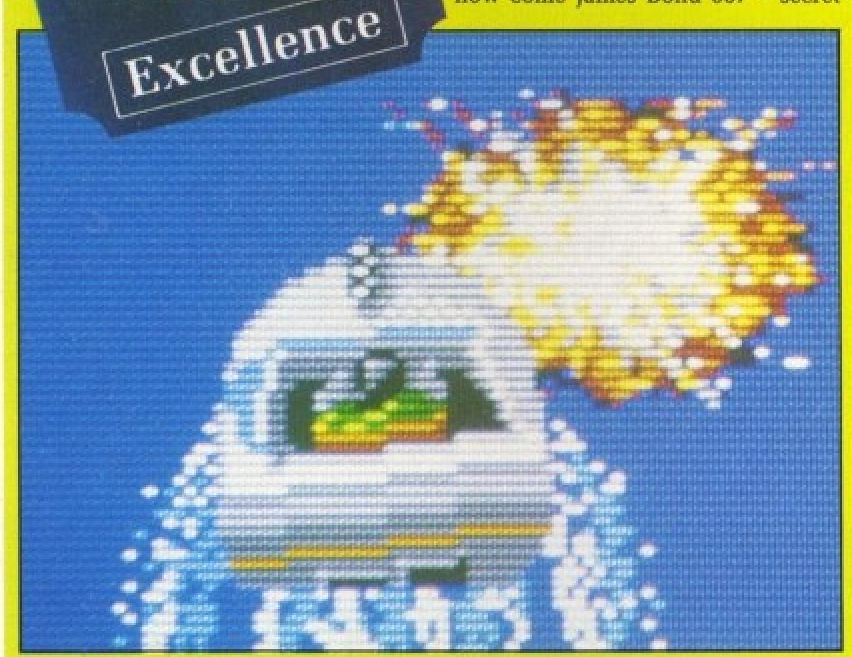
Be there soon...

LIVE AND LET DIE

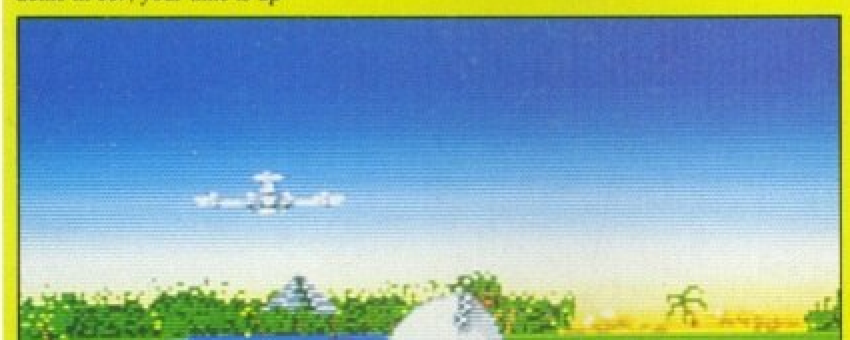
Slick as the man himself



Can you tell me the way to Silkworm, please?



Come in 007, your time is up



Acieed!

In ordinary circumstances – if you have an extremely fast powerboat with a front-mounted 20mm cannon and surface-to-surface missile launcher, what you say is automatically fine by everyone else. So how come James Bond 007 – secret agent, good egg and only convincingly played by Sean Connery – has got problems?

People are actually strafing this guy from Cessnas without even a by-your-leave. Tsch, the international criminals today, no respect for tradition.

Dr Kananga – politician, villain and bad egg numero uno – has decided that large amounts of free heroin would do large amounts of good for his voodoo-ridden island of San Monique and inordinately huge amounts of bad to the ole US of A.

By growing opium poppies under camouflage netting, the bad doctor plans to export the resin to his hidden processing plants. These are slightly inaccessible, being at the North Pole, the Sahara Desert and the Florida swamplands.

All are open to attack only via some kind of boat, so it's here that the powerboat-cum-warship comes in handy. Quite how much navigable passage there is in the Sahara I'm not exactly sure, but there can't be much. Mr Pedant strikes back.

There are the three full-scale missions, plus one target and steering practice run. Each has a separate high score table, so the easier runs aren't a passport to high score domination.

The waterways aren't your Norfolk Broads, they are littered with logs, lethal rocks and nasty mines which go pop (times several thousand) at inopportune moments.

The boat is fairly tough, so logs only cause it to leap wildly. This has a use – apart from giving you a legitimate reason for shouting Acieed! – in that the nasty Cessnas can be shot out of the sky. Things get nasty when you meet tunnels or embankments which must be aimed through or slid round. Some of these tunnels have locked doors in them, but they don't after you loose a missile at them.

As the only way of ending the game is running out of motion-lotion, someone helpfully leaves fuel barrels kicking about. The nasty boats drop explosive barrels, which make a slight dent in the old paintwork. All can be overtaken, as long as they don't ram you first.

Everything moves very quickly, so a sharp eye and nimble fingers are needed. Only when you've hammered through enough hell-and-high-water do you get a crack at Dr Kananga's dope emporium.

The chances of actually getting that far are pretty slim, far slimmer than the ubiquitous Bond girl who is probably draped by the side of the able agent. But the courses aren't random, so you'll learn what to avoid – eventually.

The display is a neatly centred 200 line affair, with some of the fastest racing perspective this side of the dedicated 3D chippery in arcade machines. The tune is very pleasant – it doesn't play during the game – but some of the sound effects occasionally come out wrongly.

Granted, the gameplay may have all the depth of Spy Hunter, but the sheer speed and beauty of it is something else.

Buy this and once you realise what to do you'll be the owner of one of the slickest, fastest, prettiest, although not tremendously educational, pure Amiga arcade masterpieces around.

Stewart C. Russell

Live and Let Die
£19.95
Elite/Domark

Sound
Graphics
Gameplay
Value

Overall – 93%


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ARCHIPELAGOS

Four levels a penny

LONG, long ago, in a place where a cloudy planet always hung above the north, the ancients played with thought worlds. Together the power of their minds created a hundred planets, each an archipelago, where they met, relaxed and drank tea.

Their thoughts were so strong that the places became real. When they slept, they found the morphogenic patterns of their thoughts remained to generate, almost randomly, thousands more worlds.

Then the ancients turned their minds to another place. They contemplated the cloudy planet in the north and imagined seas, then inhabitants, and finally whole civilisations. In time this place also became real – so real that one day visitors came from it.

The visitors liked Archipelagos. They had found 10,000 paradises. Pretty soon they staked their claim on every archipelago by placing an obelisk of immutable granite, each a sentinel of their power. The ancients tried to de-imagine their visitors, but it was too late – the obelisks were in place.

The very idea of de-imagination made the visitors mad. They decided the ancients would have to go.

Early one morning, as the multicoloured birds sang Aeolian harmonies in the trees of Archipelagos, the visitors made their last call. They tracked down the ancients and drained their blood into the soil. Their bodies were turned to stone where they slept. If they awoke, their waking forms were mutated into the unspeakable. Their souls were cast into torment. Even the tea supplies were confiscated.

And all the life in Archipelagos was left perverted. Where clumps of gladioli once bloomed, eggs now awaited the elemental spark of thunder – erm, shouldn't that be lightning, Herbie? – to spread poison. Where birds once sang, necromancers now inexorably ate the very fabric of Archipelagos. The visitors have long since gone, but their work remains. Until now ...

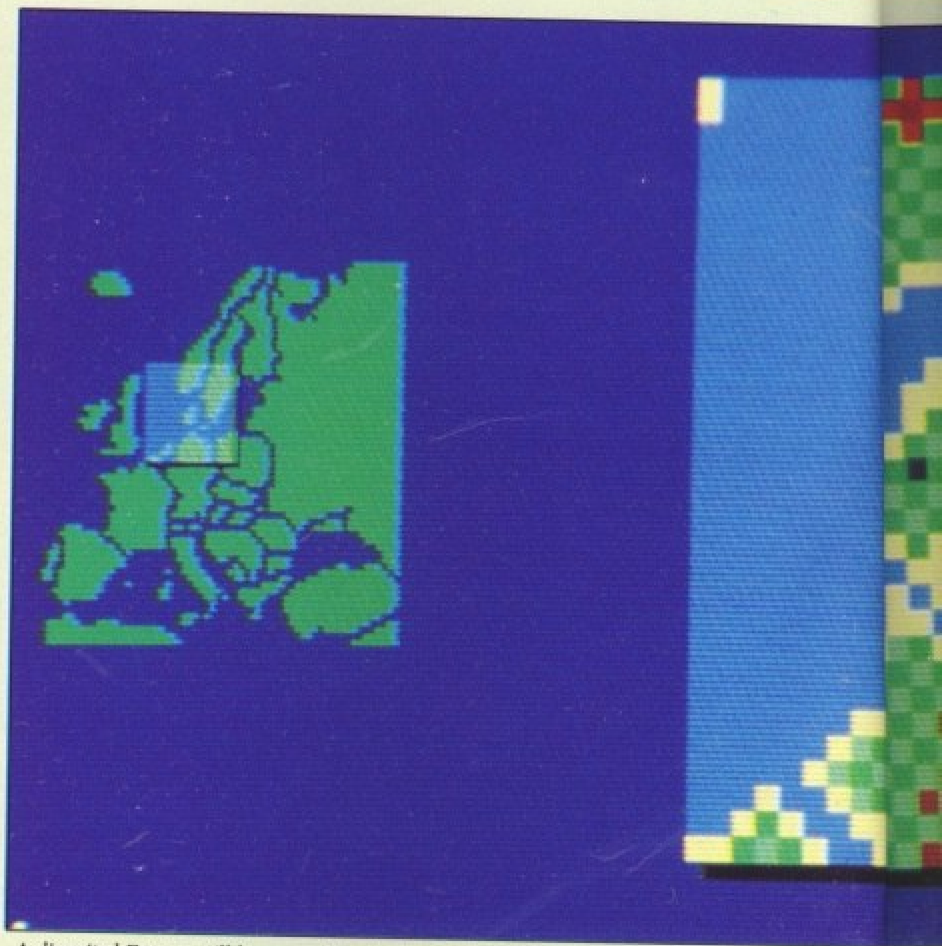
This is where you come in, floating, as if disembodied, a metre above the ground. You're here to destroy the obelisk in each archipelago.

Remember, the obelisk gets its power from the stones, the petrified remains of the ancients, so to destroy it you first have to crumble the stones and absorb their energy. This you do by placing a crosshair cursor on to the same square of land as the stone and pressing the action button.

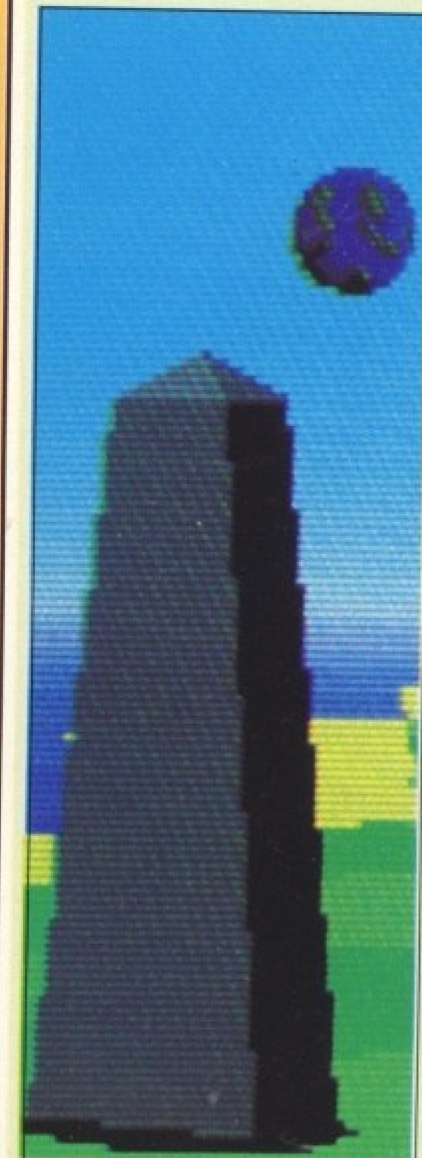
In each archipelago there are a number of stones to crumble. Some are on islands separated from the obelisk by a calm sea. Before you can absorb their energy you must join them by a continuous but not necessarily straight path to the obelisk. Sometimes it's just a matter of three or four wedges of turf, other times you will need to build vast land bridges from island to island.

Once all the stones in an archipelago are crumbled you have 90 seconds to return to the obelisk and destroy it. If you don't get it, it will get you.

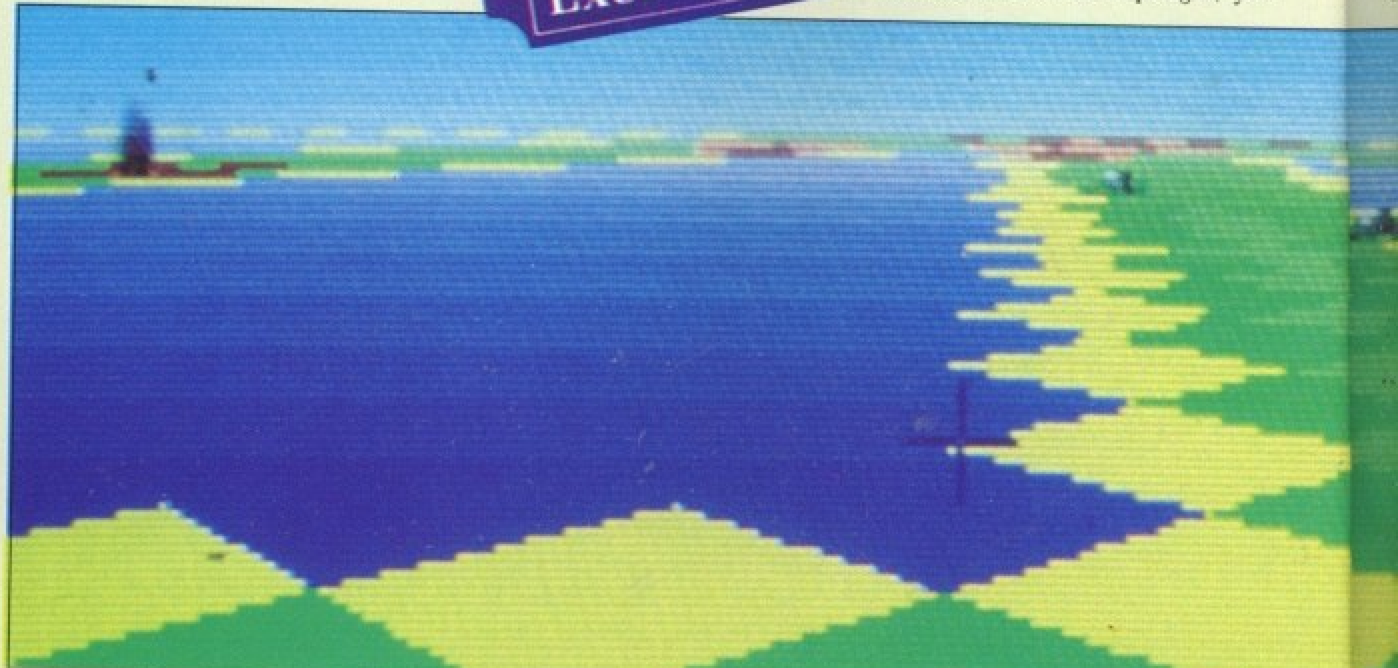
Despite what you may have read elsewhere about Archipelagos, you



A disunited Europe will have you Russian to put it together again

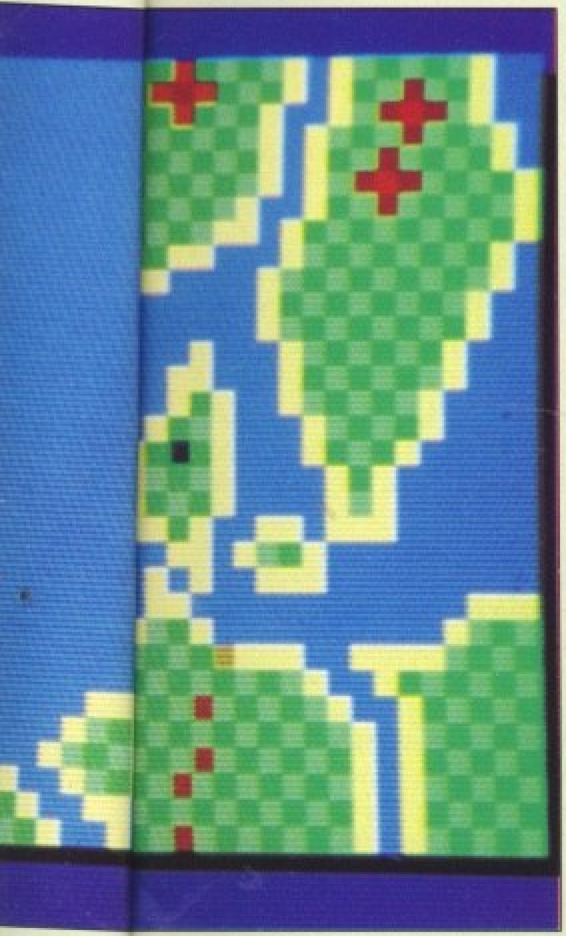


Looking north



Pause the game and let's go for a paddle

GOS



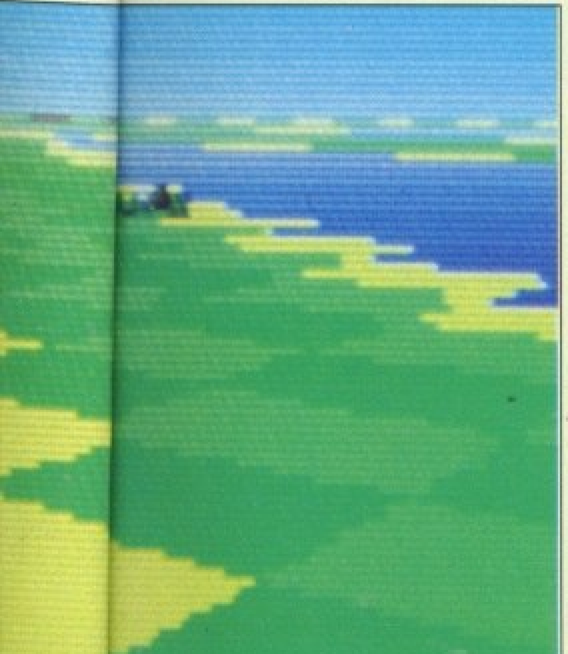
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cannot choose which level to start on – you start on level one and must work your way through to level 9,999. There is no save game option and you only have one life. Sounds an impossible task, and it is. Let's hope Logotron leaks a cheat mode real early.

Various bits and pieces are out to hinder your progress. As mentioned in the story, ancients who have awoken from their sleep drift about the islands in the form of marvellously animated lost souls. A wonderful sound effect, something akin to a depressed wasp, accompanies their travels. Let one of these stumble into you and you'll get to meet Marvin Gaye. And you can't get more lost soul than that.



Archipelagos *£24.99* *Logotron*	
Sound	▮▮▮▮▮▮▮▮▮▮▮▮▮▯
Graphics	▮▮▮▮▮▮▮▮▮▮▮▮▮▮
Gameplay	▮▮▮▮▮▮▮▮▮▮▮▮▯▯
Value	▮▮▮▮▮▮▮▮▮▮▮▮▮▯
Overall – 94%	

Necromancers rise from the ground and wander along the shore of islands, devouring the land. When the sky grows dark and there is a mighty clap of thunder and a flash of lightning, a Blood Egg is ready to hatch. These peeling, spinning beauties either spread poison like arboreal trees or eat land like necromancers.

You can use the power you suck from the stones to build or disinfect land. Arboreal tree pods, if nipped in the bud, also build up your power. You're going to need it.

Every fifth archipelago in the first 100 is bitmapped. There are some great maps there – Europe, the Americas, the Logotron turtle. I won't spoil your fun by listing them. All the rest are computer generated, but the deeper you get into the game, the bigger and more complicated each archipelago gets, and the longer it takes to calculate.

Quick, smooth, colourful animation apart, the graphics Logotron has added especially for this Amiga version give it that touch of class you don't see on the, erm, other thing: A day and night cycle, lightning striking when thunder claps, bark on the arboreal trees and a correctly shaded horizon, giving it that realistic hazy look of the seaside.

The music and sound effects, some of which are unique to the Amiga, are by David Whittaker. Need I say more? Course not.

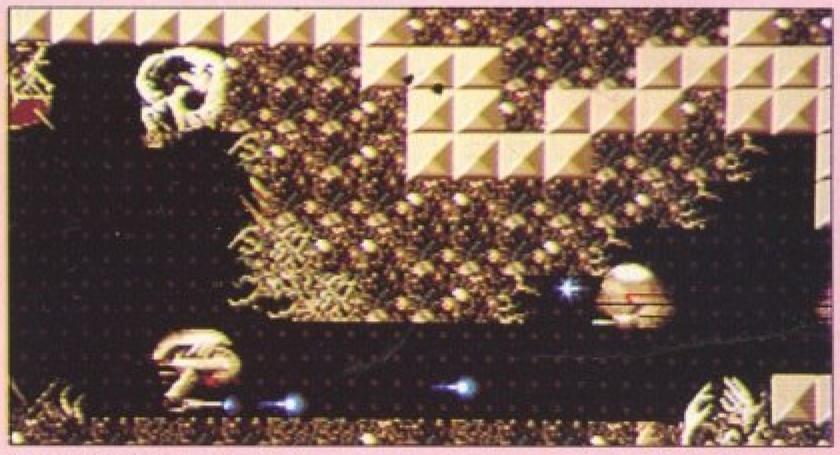
But with the lack of a save option, Archipelagos falls down ever so slightly on the gameplay stakes. Nobody in their right mind is going to play this one from beginning to end.

After two weeks of regularly dying on level 35 – and it'll take a couple of hours to get that far – you could be forgiven if you were sick to death of the first 34. Bet it won't stop you having another go though.

Jeff Walker

JUG

Can you handle it?



Anyone for plasma bolts?

HOW's this for discrimination? Just because you happen to be made of titanium and everyone else happens to be soft and slightly squishy, *you* get all the dangerous jobs. And not merely that, since you happen to be slightly portly, those offworld zeebs nicknamed you Jug. Sweet, no?

The planet Spiraeus has got a real problem – it's one of those rare living planets and the inside is being destroyed by a strange virus. This is not good, so you have to kill off the infected bits.

Like most living things, Spiraeus has a complex immune system. Since it hasn't met any titanium humanoids, it reckons you shouldn't be there. Hoards of antibody drones and fighters are after you and you've got nothing more than a weedy laser cannon to fend them off. Being a rather clever titanium humanoid you can pilfer bits of spare machinery and adapt them to your own needs. Anyone for plasma bolts and smart bombs?

The four zones in each of four sectors scroll as you crawl or fly about. Crawling does not need any fuel, but is slow and can only be used over level terrain. Flying is very fast but eats up the fuel at quite a rate.



Even the scenery is ugly

Some areas of the planet are mildly radioactive; they won't do you any harm, but they are a little sore on the fuel. At least you can refuel when you find a none-too-frequent fuel dump.

The background graphics are smart, although they are what we should expect for this type of game. Parts of each level are decorated differently; as you near the core, the metallic gives way to the organic and the denizens become more like living creatures.

The tune is suitably heroic and well executed, but like most computer tunes it lacks direction and is utterly forgettable. The sound effects are almost totally masked by the tune. The program allows the player to mix the volume levels for each one to get the desired effects.

If a certain game called Cybernoid hadn't been written I am pretty sure we wouldn't have ever seen Jug because it would have had nothing to "inspire" it. Technically, everything seems OK – sprites bounce about and explode on cue – it's just that the pace hasn't been judged correctly. On skill level one it's too slow, on two and three it's too sharp. Everything seems tired. Jug needs a thorough relube.

Stewart C. Russell

Jug *£19.95* *Microdeal*	
Sound	▮▮▮▮▮▮▮▮▮▯▯▯▯▯
Graphics	▮▮▮▮▮▮▮▮▮▯▯▯▯▯
Gameplay	▮▮▮▮▮▮▮▯▯▯▯▯▯▯
Value	▮▮▮▮▮▮▮▮▯▯▯▯▯▯
Overall – 62%	

BEAM

More brain than brawn

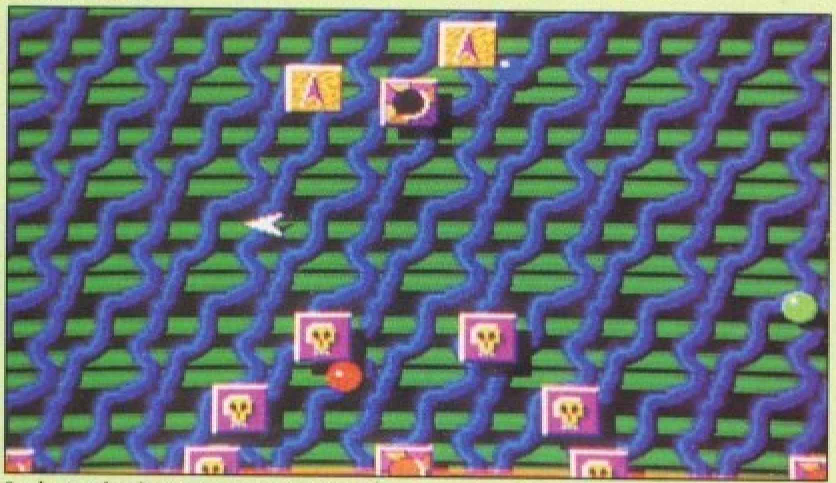
Amiga Computing Excellence

Beam £24.99 Gremlin Graphics	
Sound	
Graphics	
Gameplay	
Value	
Overall – 93%	

YOU are in a spaceship under the influence of a fluctuating gravitational field, which makes said spaceship extremely difficult to control. You are opposed by three killer balls which roam around threatening to destroy your ship with a single touch. To proceed to the next level you have a task to complete, then the exit door opens.



A stick in time



So that's what happened to Duran Duran

The first three levels involve connecting power stations with laser beams without blocking yourself off from the exit or blowing yourself up. You drive to a live (red) power station, touch it, whereupon your ship turns red, drive to a dead power station and touch that, whereupon the two stations will be connected by a beam.

Touching various blocks brings on differing effects. The Apple block changes gravity, numbered pieces add to your score; skulls kill you stone dead. Then there's the alcoholic block – an enemy which jumps around randomly and knocks you into skulls. There is a tight time limit of 90 seconds to each task.

You can choose between two types of spaceship. One can be brought to a halt by pressing the Fire button, the other is for experienced players and maniacs only; it tends to run out of control as it cannot be braked without a lot of joystick waggling.

That, essentially, is all there is to the plot. At first the game looks extremely simple – then the subtleties slowly appear and you find you can't put the joystick down. Its secret is the mixture of fast action and strategy. On most levels there are a few correct ways to complete the task but plenty of opportunity to go wrong, even without any nasties to distract you.

The graphics are stunning. Bright reds, greens and blues are used to great effect, but the real show-stoppers are the patterned backgrounds in the style of Arkanoid. Some are animated. Seeing foreground graphics, then the midground oscillating behind them and a static background behind that makes a terrific impression.

Text is displayed in a large, clear font and the display fills the whole screen. No corners have been cut – even the menu screens are well presented. You never have to touch the keyboard, its joystick selection for everything.

Sound quality lags not far behind. There is a short, delicate passage accompanying the loading screen, then some loud and rhythmic tunes on the menu and high score screens, plus wonderful effects during the game – a screech of brakes as the spacecraft slides to a halt, the clang of metal on barrier and much more.

Beam is one of the best games I have played on any computer.

Alastair Scott

STEVE DAVIS

Give it

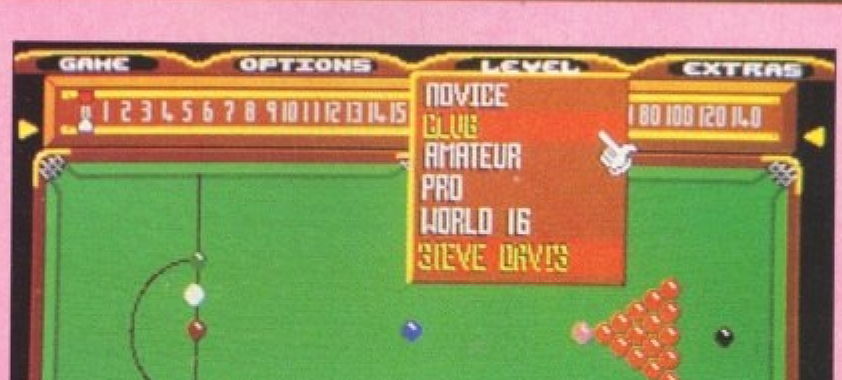
AFTER the Frenchmen hid the pockets of Colonel Pemberton's billiards table, Smyth spared no expense in getting them back. Sherlock Holmes was called in and after many adventures in far flung lands the pockets were found on Professor Moriarty's mantelpiece.

The good colonel was delighted. "Let's rout these damned foreigners with an English game. Rule Britannia!", he cried.

So it came to pass that Steve Davis World Snooker was written. Although Colonel Pemberton thought that snooker and pool were base games played only by drunkards and dissolutes, the programmers thoughtfully included English billiards just for him, as well as French billiards, also known as Billiards Carom, which has three balls and a pocketless table.

"Egad! I squandered all my inheritance on Holmes when I could have read the instruction book!", the once-powerful voice quailed from beyond the grave.

Snooker is divided into 10 ball and 15 ball versions. Pool is either American – 15 numbered balls of different colours, points scored by potting a nominated ball into a nominated pocket – or English – pot eight reds or eight yellows, then the black to win. English billiards is a



RAIDER

The gravity feels good

THERE was only one problem when I upgraded to my Amiga: I couldn't play Thrust any more. It was the best budget game every written, using simple gameplay and even simpler graphics to great effect.

Raider is as close a copy as is likely to be written. The inevitable plot paints the usual Rebels versus The Empire story and you, Greg Simpson, are the only person left alive/stupid enough (delete as applicable) to save Life, the Universe and Tescos.

With that out of the way we can get down to playing the game. Your ship appears out of hyperspace above the surface of a beautifully drawn planet. Your small arrow-headed ship – and I mean small – is manoeuvred by rotating left and right and giving a small amount of thrust at just the right moment.

Gravity and gun emplacements, your two enemies, will do their upmost to foil your important mission. You can destroy the guns with laser cannon, but avoiding the ground and mountains is a matter of great skill, great cunning and the occasional sharp intake of breath.

The mission consists of collecting pods, which form part of the very involved and highly dubious plot. Suffice to say that collecting them is what the game is all about. They are swiped off the surface by hovering above them and switching on your tractor beam. No need to tow it around after you, presumably the



advances of 16 bit technology mean your ship now has a larger boot.

Fuel tanks are scattered around. They are also collected by hovering above them and using the tractor beam. A further type of fuel is available to power the torch you will need when the lights fail on later levels.

Each star system consists of four heavenly bodies – either planets, moons or asteroids – and each is different, not only graphically but in gameplay as well. The strength and direction of the gravity, the atmosphere and even the shape of the place can change dramatically from level to level.

Once you have collected four pods it's off to the inter-level gap for a bit of nuclear powerplant engineering. If you manage to make it this far, you will be given a password to allow easier access to the higher levels when you play again. This is a Good Thing.

The graphics used to define the various planets and moons are wonderfully drawn and smoothly scrolled in all directions. Every new landscape is a joy to look at and explore.

Raider
£19.95
Impressions

Sound
Graphics
Gameplay
Value

Overall – 73%

The only flaw is the minute ship, which doesn't rotate in as many steps as it could.

Sound is either brilliant, if you have never heard an Amiga before, or disappointing if you have. The explosions are fine, but the laser sound sets your teeth on edge. It must have taken ages to find just the right Pet Shop Boys album to play backwards at half-speed and sample.

Raiders doesn't have the "less is more" touch of Thrust, going completely overboard with fancy graphics and more levels than is humanly possible to play. It does however have the same delicate, addictive gameplay.

There are 10 star systems to explore, making a total of 40 levels to play. Without the password system this would be impossible, but as it stands you can get just far enough with each game to warrant another go. Some might say this is addiction, but I could give it up any time I wanted.

John Kennedy

WORLD SNOOKER

some stick

wonderfully silly game which gives you big scores for such indiscretions as potting your opponent's cue ball and going in-off, whereas Billiards Carom is "hit the balls as hard as possible and croissant your fingers".

Gameplay is very similar to the 8 bit versions, except that a cue rather than a cross-hair cursor is used to line up your shot. Unfortunately, the pockets are no longer like buckets, so nonchalantly notching up gigantic breaks with your eyes closed is not on.

After several hours of trying, my record is nine. The high score table recognises this – anything above six and your name is displayed in lights.

If you want to be thrashed, play the computer on the highest of its six skill levels. It plays cannons, plants, doubles and other impossible shots as a matter of routine. The lowest skill level is ideal for duffers like myself, combining dazzling pots with ridiculous misses.

If you are an exhibitionist, trick shots can be set up using a very good table editor, although it doesn't cater for bottles, jump shots and other baize rippers.

The graphics are reasonable. The balls are a little small, but there is a magnify option which lets you have a closer look at the area round the pockets. No, you can't play a shot while it is on.

Movement is smooth and fast, particularly with only a few balls on the table. It's a pity the programmers didn't play to the gallery with smoothly animated striped and spotted pool balls. There is no 3D option.

For Steve Davis groupies there is ample opportunity for hero worship: Three mono digitised pictures called up by pressing the right mouse button and a superb HAM loading picture accompanied by a perfect rendition of that annoying tune which comes up on BBC at all hours of the day during snooker championships.

Steve Davis World Snooker
£19.95
CDS

Sound
Graphics
Gameplay
Value

Overall – 81%

Sound during the game is limited to the click of ball on ball and the clunk of ball into pocket, plus SD's annoying digitised witticisms.

A classic game which still looks good after five years at the top. No frills, just an accurate simulation.

Alastair Scott

BIO CHALLENGE

Go nuts over bolts through space



Looks like Robocop, sounds like Charles Aznavour



And he doesn't wear his underpants outside his trousers

UNHAPPY with your washing? If you take the Bio Challenge, it'll come out with the extra halfbriteness you like. And we think you wouldn't go back to using your old powder... Now hold on there. The French may be many things – most of them repeatable – but not even the most wacked-out of their number could produce a game about washing powder adverts. Not even after an evening on the calvados.

No, the real subject matter of Bio Challenge is genes. Not 501 type, the DNA type which don't come with a teaspoonful of abrasive grit in each pocket. It seems the human genetic system is getting weaker and sooner or later it's going to guru with no left button to click. This is seen as a very tiny hindrance, the merest setback in peoplekind's relentless advance.

In order to counter the loss of human strength, those omnipresent technobods have managed to shoehorn a human brain into a high strength mechanical body and still keep things working OK. Being technical types, and therefore exempt from most bounds of reason, the machine is called Klipt.

The field test of the first Klipt takes place in a fairly typical set of strange dimensions where there are a number of planets linked by tele-ports.

In order to escape to the next dimension Klipt's got to collect four parts of the magic amulet and enough dead robots to destroy the end-of-level guardian. Klipt's only weapons are its ability to somersault, jump and spin – guns and other things that might cause people harm have been ruled out.

You run on oil, and everything else in these dimensions is partial to the odd drop of lube now and again. This is going to be no picnic, there are millions of them and only one of you.

Energy platforms litter each planet, hovering in space for some unknown but probably fairly plausible reason. If Klipt jumps on to one and somersaults the correct number of times it will come crashing to the ground, hopefully wasting the nastie that is lurking beneath.

Ground-based nasties roll about in a set pattern, so sharpen the skills you learnt for Manic Miner all those years ago.

Spinning is mostly used to despatch the weeny flying monsters which buzz about like wasps on an August afternoon. They're fairly harmless, but you do get points for them, so waste 'em all the same. Spinning can be combined with jumping, and this can be used to bump off platforms sideways, wasting more crawlies on the ground or one of the rather nasty bouncing snakes which lurk on the platforms.

Some nasties leave behind a spinning cauldron which can be cracked open for bonuses. One gives you a kind of smart bomb, another allows you to hurl the little flying things about in the vain hope that they might splatter a robot or two.

Once you have all your bits and bobs, rush back to your sphere and onwards to deal with the guardian. This one is more famed for its general unpleasantness rather than its typos. You have very little ammo to spare. Once destroyed, on to the next, much harder, level.

Each screen seems to have rather more colours than is usual even in EHB mode – about 180 according to Palace boss Pete Stone, who isn't sure – a tribute to the skills of the folks at Delphine Software.

Delphine also has strong links with the music business and has got someone who knows a quaver from a semibreve to do the equally clever sound. So Bio Challenge is definitely special in the technical department. The gameplay is, erm, different, and takes hours of practice just to get used to the controls.

If you enjoy really mastering a game, Bio Challenge is probably for you. But for the occasional time and robot wasting session, there are alternatives that won't cause so much angst and cursing. Very good, but very hard.

Stewart C. Russell

Bio Challenge
£24.99
Delphine

Sound

Graphics

Gameplay

Value

Overall – 83%

GOLDRUNNER II

Some games are born great

MYSTERIOUSLY, this game is billed as an arcade adventure, which some may claim is bending the facts a tad. The truth is that it is just a crazy-psycho field trip with a little bit of a plot lost in it somewhere.

What's wrong with that? Are the joystick-happy gamesters of today ashamed of their annihilistic yearnings? Maybe.

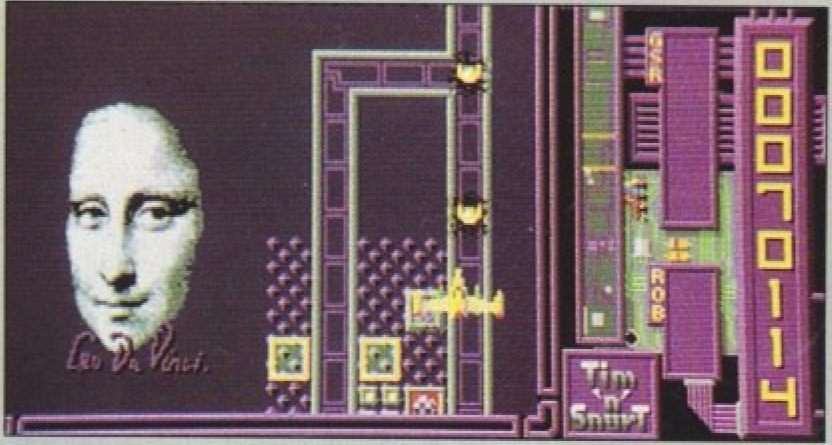
Following on from the Goldrunner saga, the Space Pirates have hit back at the humans by stealing their robots. Shame. Anyway, for reasons of genealogy you have been chosen to rescue them from the pirates' evil clutches.

Makes a change from rescuing princesses I suppose, but without the perks.

The robots are dispersed among a series of disused yet heavily defended research platforms. Unfortunately it is not quite as easy as hyperspacing in and blasting everyone. The robots are all boogying around the surface in little cars.

In true arcade fashion you must blast the widgets off these cars to free the robots.

Can you rescue them then? No. Due to further complications you can't land and pick up the poor blighters. Instead you fritter and



waste your time in an offhand way waiting for a pirate recovery ship to come and pick them up. Then you blast that as well. Yes, now you can pick them up.

When you have a few on board, groove on down to the teleporters – which the pirates have cunningly left unguarded and switched on – and zap your tin buddies home.

Massive bonuses can be accumulated based on the percentage of robots rescued, and this is the only way to get your name in lights. A few points are given for shooting unladen recovery vessels. This can attract the attention of some fearsome fightercraft. But what the heck, it's fun.

The scrolling is amazing. C64 veterans are sure to remember the Hewson classic Uridium. Well, it's like that only better. The ship movement and general graphics seem to be influenced by those early Braybrook gems too, perhaps because, like them, it is amazingly high quality code.

The tutorial is an excellent feature. If you can't understand the plot, select this option and occasionally a few seconds of well- sampled speech will give you instructions. The voice sounds like the bloke from Rapidom, but a bit more informative.

Sound is very well supported, with the option of a good tune or some above average sound effects. With the sampled speech as well, a little more effort than usual went into the audio side of things.

And if you ever get bored of the view there are a couple more scenery discs available for an extra £5.99 each which are even harder than the original.

Goldrunner II is a good game. Credit must be given to Microdeal for paying more attention to quality than hype.

Green

AMIGA COMPUTING Value

Goldrunner II
£19.95
Microdeal

Sound
Graphics
Gameplay
Value

Overall – 88%

REALM OF T

Death in th

Realm of the Trolls
£24.99
Rainbow Arts

Sound
Graphics
Gameplay
Value

Overall – 33%

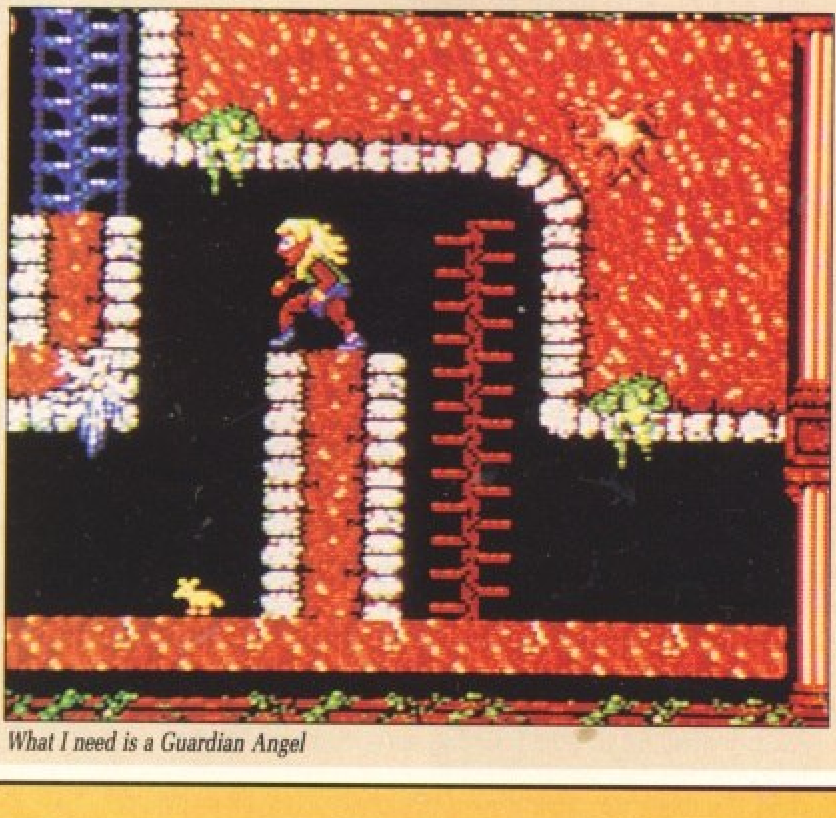
DO you remember Manic Miner? I bet my floppies that the programmers of Realm of the Trolls do. To be fair, it is slightly more graphical and atmospheric than that, but it is "one of those sort of games" with a spot of Apple Panic and Dig Dug thrown in.

If you are fluent in French, Spanish or Italian you might be able to read the instructions. The English version doesn't make any sense.

From what I could understand – and I am open to suggestions you assume the role of an elf whose duty it is to enter the treacherous troll tunnels to steal back all the amazingly fabulous elven relics which the avaricious if somewhat tasteless trolls have purloined from the elves some time in the past.

The caverns take the form of a series of halls. There are quite a few of them – a whole separate data disc full. In each hall the elf must collect all the valuable elven treasures – he may also take some of the art treasures the trolls have collected and pick up some healing potions before locating and leaving via the exit passageway.

To assist in moving around the hall there are infrequent magic portals which instantly transport you to the destination of your choice. In some



What I need is a Guardian Angel



£5.99 ... han the ... game. ... deal for ... ty than ... Green



HOLLYWOOD POKER PRO

The naked truth



Going for a straight



Would that plait fall if she let go?

IT seems to me that however much you moralise about software porn, however much you point out that softcore on a computer is a complete rip-off when compared to the dubious value offered by mens' magazines and videos, software houses will still produce the stuff. And someone out there will still buy it.

Hollywood Poker Pro is the sequel to Hollywood Poker, which isn't much of a surprise. What is surprising is that instead of just another collection of digitised cuties, the actual algorithms of the program have been tightened up to give you a much stiffer game.

All good and well really because, let's face it, otherwise you'd be paying £20 just to see four digitised girls in their birthday suits. Even the most rabid smut fiend would have to concede that that is a total rip off.

As it is, the pictures in the game are of an extremely high quality utilising, as they do, the Amiga's HAM mode. A really tacky extra is a magnifying glass which can be used to give a chunky zoom-in on any area of the picture your sweaty hands desire.

Both you and the computer start with $100, the standard bet is $5 and you can bet or raise in increments of $25 as you attempt to beat one of four computer opponents and cause it to buy a successive $100 with articles of clothing. If you manage to win $400 you will have reduced the computer picture to its bare essentials.

And that's basically all you're getting for your money, except for numerous slightly different tunes which are composed from sampled instruments and are reasonably good, if somewhat monotonous.

As a game of poker this is perfectly acceptable. It plays quite well and it will take you some time before you manage to beat all four opponents. It does show off the graphics and sound capabilities of the Amiga.

But if the only reason you are buying Hollywood Poker Pro is for some sweaty stimulation, then you really are an ST owner in every sense of the word.

Duncan Evans

Hollywood Poker Pro
£19.95
ReLine

Sound
Graphics
Gameplay
Value

Overall – 75%

...OF THE TROLLS

...ath in the rocks

halls there are even lifts pulled up and down by small bats which obviously don't have a very good union.

Another form of public transport is the wagons which perpetually run up and down the tracks in a few of the halls. For the pedestrian there are always the ladders.

One of the hazards of being a cave robber is encountering the owners, in this case the trolls, who carry around large baseball bats and attempt to play nine innings with your head, which is decidedly bad for your elf (sorry).

There are several ways to deal with them. You can use your mental powers to stun them, use your awesome magical powers to blow a hole in the floor and kill them or, by far and away the best, you can leg it.

A very annoying feature is that the elf can be controlled by joystick but you must click the mouse to use mental powers and magic.

The animation is not up to much, though the scenery of decomposing walls and lichen-covered masonry is quite effective at building up the dungeon atmosphere. The same cannot be said of the sound effects which, aside from the thunk of bat on skull, sound like they might have loaded wrongly.

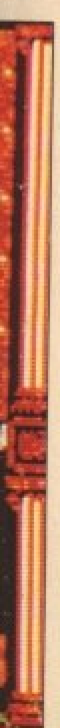
If you find the puzzles boring, or if they are too difficult, you can always use the scene editor. This, as it turns out, can be a lot more satisfying than playing the game. As well as all the usual stuff for building ladders and walls, you can change the personality of the trolls.

Only to be recommended if you have difficulty finding something to do on Sundays.

Green



This is the pits



BATTLEHAWKS 1942

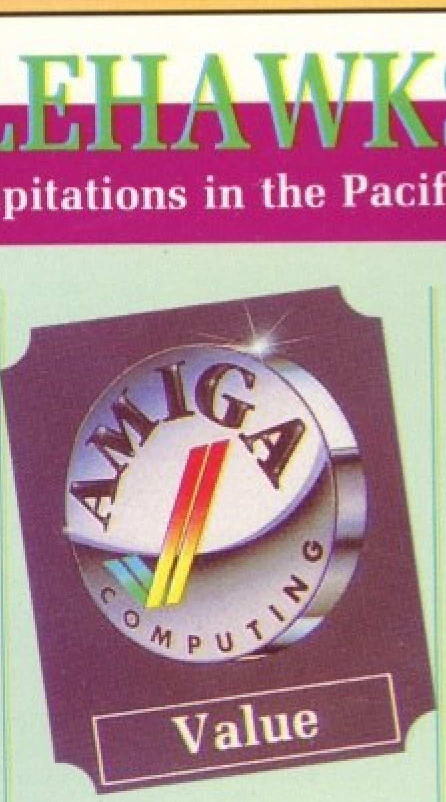
Palpitations in the Pacific

BATTLEHAWKS reminds me of that place in London where all the old relics are kept. No, not the *Atari ST User* office, I mean the "ace caff with quite a nice museum attached".

If you know nothing about the history of the Pacific War, you will after reading Battlehawk's 150-page manual. It's impossible to put it down, the best book I have seen for any computer program – an excellent textbook for Mastermind, even with the novella protection.

The game is nice too. You are in the cockpit of one of 12 types of Japanese or American plane and you can play a vital part in the reconstruction of four great battles – Coral Sea, Midway, Eastern Solomons and Santa Cruz Islands.

Depending on the type of plane you have, you can torpedo or divebomb battleships, whip the enemy in dogfights, protect damaged



ships from attack and possibly re-write the history books.

Basically, Battlehawks is a very good flight simulator. The controls are greatly simplified, mind you – all you really have to do is guide the plane around using the mouse, raise and lower the flaps to alter lift, open and close the throttle, keep a close eye on the compass and altimeter, plus look to the sides and behind you for any enemy planes trying a surprise attack.

At first, using the mouse to change height and direction seems a little strange. However, you soon find that it is much more sensitive than joystick or keyboard. Pressing either mouse button fires the machine guns and the spacebar drops bombs.

Downing the enemy planes is difficult because they keep their distance and it is almost impossible to keep your plane completely level. On my maiden flight, lasting one hour, I shot down three planes, damaged one, and missed several thousand times.

There are practice modes which give you a pilot's dream – infinite ammunition and armour, enemy planes which don't shoot at you and a safety device which prevents you stalling or flying below 75 feet. In real battles you can save your skin when shot down by ejecting.

For the vain, the most useful feature is a camera which can be switched on during your manoeuvres. It can be replayed later as a nice ego massage.

The best graphics are on the clear and bright menu screens. The view out of the cockpit window is much more crude. The planes and ships are rather ill-defined – all you see is sea and sky represented by two blocks of colour.

The sound is a great help, the note changing pitch whenever the plane is damaged or the engines are about to stall. Together with the rat-tat-tat of machine guns and the crunch of explosions, it sounds very realistic in stereo.

Many similar programs have been released before. Battlehawks 1942, an ace book with quite a nice game attached, is the best I've seen.

Alastair Scott



He he he, this'll confuse them



Please sir, can I go to the toilet?

Battlehawks 1942
£24.99
Lucasfilms

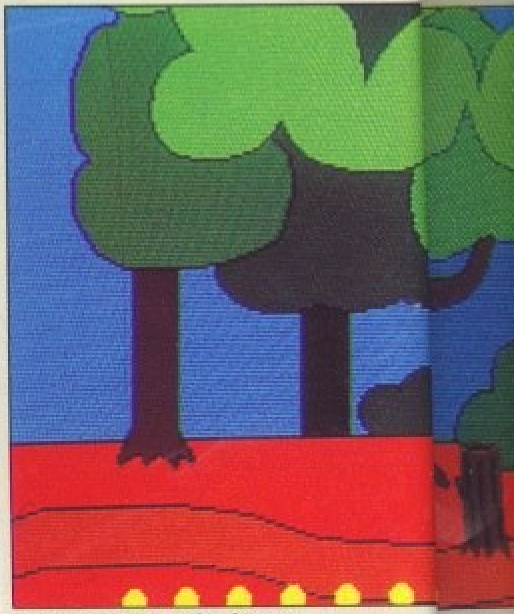
Sound
Graphics
Gameplay
Value

Overall – 88%

Pac-Land
£19.95
Grandslam

Sound
Graphics
Gameplay
Value

Overall – 49%


Can't see the game for the trees

Advanced Ski Simulator
£19.99
Code Masters

Sound
Graphics
Gameplay
Value

Overall – 62%

MY hunch is that people who watch Ski Sunday don't do it to see fine skiing. What they are hoping for is a real legs-and-poles-everywhere fall. I mean, who cares whether the Austrian or the Swiss takes the downhill title? What matters is how well they can wrap themselves round a tree at 60mph.

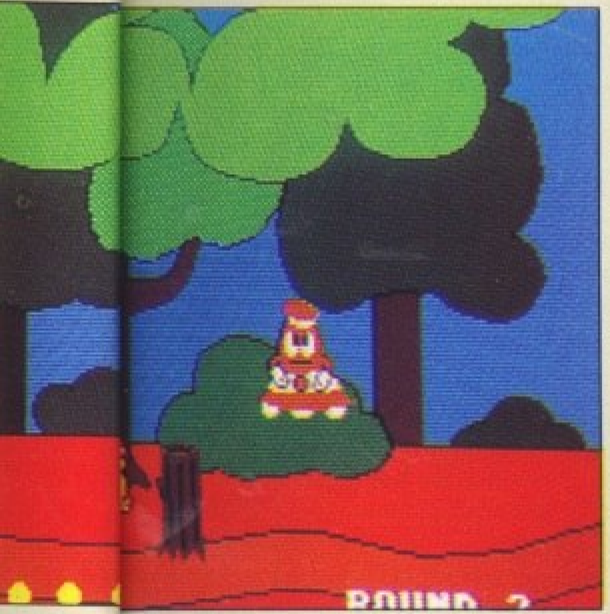
Advanced Ski Simulator puts you in a head-to-head competition against a computer or human opponent over a rather strange course. It's not a downhill, although there are steep stretches. It's not a slalom or

PAC-LAND

Bouncing back to fairyland

IF *Amiga Computing* was a low budget production, this review would start, "Remember Pac-Man all those years ago? Well, Pac's back in a whole new set of adventures!" or something equally repugnant. As this is not your average trash mag, we managed to keep it until well into the first sentence.

This is quality journalism here. There is not no bad grammar or spelling erors here. Nor are there jokes of the type which have haunted computer magazines since spelling checkers were invented.



Pac-Land is one of those annoying arcade machines that plays a rancid tune which puts you off destroying the Sinistar in the coin-op next door. The people who play Pac-Land always seem to be very good at it, never failing to get to the third trip at the very least.

Strangely enough, a cutesy game like this attracts the oddest types. Dangerous looking bikers have been known to play it, casting furtive glances around lest a friend should catch them in an embarrassing situation.

The story is simple and virtually unnecessary. A fairy has got lost and Pac, being a true and stout – and positively obese if you want my opinion – yeoman decides to take her back to Fairyland. Pass the sickbag, Alice! But those naughty ghosts Blinky, Pinky, Inky and Clyde are intent on stopping him, so you must outwit them.

At the end of the fourth stage of every trip the Fairy Queen gives you a pair of magic boots to help you on your way. And to think adults wrote this junk. Pass the bong, brother.

Blinky, Pinky, Inky and the other one appear in planes, cars, flying saucers, even on pogo sticks in their quest to stop Pac's relentless scrolling advance. What makes the arcade machine bearable is the very sharp and simple cartoon-style graphics, which scroll very quickly and go well with a tune reminiscent of banging heads off walls.



A little squirt

There are the obligatory fruit and power pills, and objects to be jumped over in a fairly predictable manner. Springboards give you the power to leap enormous distances, but only if you hammer the keys like nothing on earth. I just about smashed my Navigator on this bit. Joysticks are cheaper than new keyboards.

This would be one of the best Amiga games going but for three things – the graphics, the scrolling and the screen size. It has jagged low-res graphics, contrasting with the sharp cartoons of the coin-op.

It also has a 56 pixel high black band at the bottom of the screen, which is the price we pay for having a superior machine. Then there's the very ripply scroll, nothing near as smooth or as fast as the Amiga can do.

Pac-Land suffers from chronic underscan – even the ST default character set is present in all its somethingness. I'm all for people writing games for the ST, but when the ST comes to my Amiga I switch off.

Stewart C. Russell

ADVANCED SKI SIMULATOR

Become a Darling of the slopes

mogul run, nor are there large enough ramps to qualify as a hotdog. There are, however, plenty of obstacles such as huts, trees and rocks, and these certainly are a faster way of stopping than snowploughing.

Getting Air produces a bar indicator of how high you're flying; Getting Piste merely produces an "ugh!" and a very sore head.

Presentation is good. The title screen acts as if the text was mounted on a rotating glass cylinder and moves very smoothly indeed. Hacker stuff. The title page tune is also exceedingly slick, with a well defined direction and enjoyable twiddly bits.



8 bit blues, if you catch my drift

The game backgrounds are very pretty, though mostly white, and make the rather stick-like skiers seem very poorly drawn indeed. The incidentals (SFX, bucko) live up to the solid standard set by the rest of the program. I guess the development team got its friends to produce the human(ish) noises, all neatly digitised.

The idea, if you've never played a Code Masters "Advanced Activity Simulator", is to complete the course within a time limit, which becomes less as the courses become slightly more difficult. One of the two players can be either the computer or controlled by a fellow high-order primate. All the gates must be completed and a bonus is given for any time remaining.

The controls are a simple rotate method, with rapid hammering of the trigger giving a cross-country style pole action. Autofire won't help you here, so use a fairly expendable stick – it'll take a bashing and no mistake.

Advanced Ski Simulator has been produced to live up to the original 8 bit version while giving the advanced features that semi-parallel processing machines like the Amiga can provide.

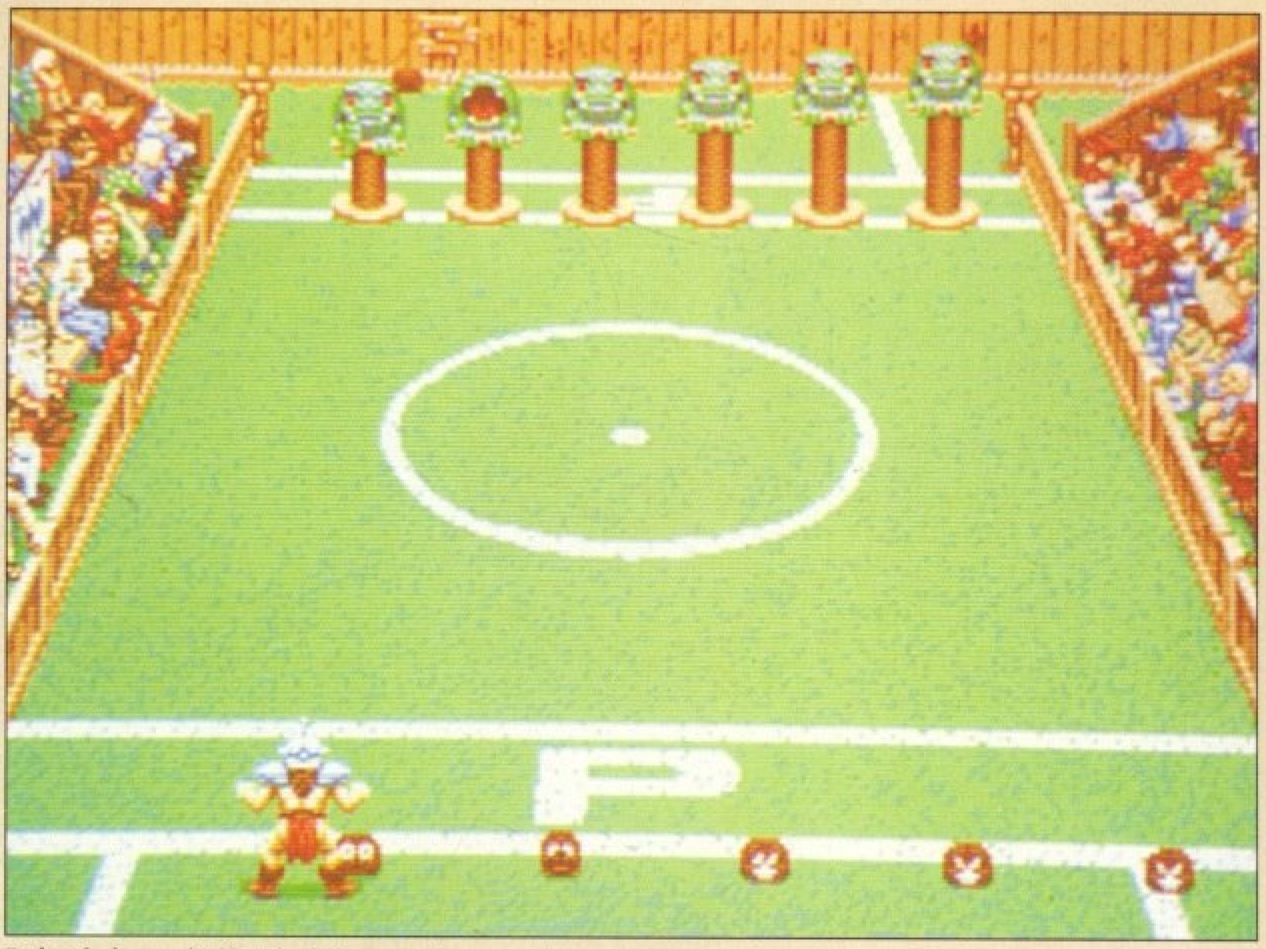
It is unfortunate, then, that the original 8 bit version wasn't the world's greatest mover. And as the Glasgow-based Highlander's development team had a rigid conversion brief to stick to, all the extra work is just window dressing.

Considering the original costs two quid and this considerably more, at first glance ASS would appear poor value. The gameplay hasn't been altered, but everything else has. If the developers had been given free rein to interpret the game differently it could've been a good 'un.

Stewart C. Russell

GRAND MONSTER SLAM

Belom bashing bonanza



Faulton feeding – a bit like school dinners really

OOER! Must be good if it's got the word grand in the title. Sounds jolly impressive. And then there's the slam bit, very violent and exciting. Not forgetting the monster element. Oh yes, this does sound interesting, grand, slam and cosmopolitan.

Well it isn't. After Denaris, who would have thought Rainbow Arts could have fallen so low. Let me explain.

Grand Monster Slam is a game about a mediaeval tournament for trolls, orcs, goblins, minotaurs and sundry other creatures. According to the impressively badly translated manual – Rainbow Arts being West German of course – you play a dwarf with a mission, a mission to win the tournament or be labelled as the king's fool for a year.

After sitting through an impressive loading screen, which promises things the program doesn't deliver, and an equally impressive piece of music, the options menu arrives, complete with quivering beloms. What's a belom, I hear you cry. I'm psychic you see.

A belom is something small and furry, roughly the shape and size of a football and somewhat reminiscent of the Tribbles in Star Trek. Yes, you kick the hell out of them.

At the menu, then, you can either check out the high score table, practice belom punting, practice kicking beloms into faulton's mouths – faulton's are things on sticks that you kick beloms into – or play in the tournament.

Practice a bit first, because no matter what the briefing says, when you start the tournament and get drawn against your first round opponent, it isn't easy.

This first section is the main game and consists of you standing, facing your foe, on a line, kicking beloms over to the other side. The first to kick his beloms over to the other side – plus any that have been kicked by the opponents to their side – and runs across the pitch, is the winner.

Knocking your foes over by kicking beloms at them is entirely legal and rather necessary. Should a belom be lofted into the audience a foul is given and a penalty of up to three beloms may be incurred. I won't bore you with the details of this because it's just too tedious. Suffice to say it involves your right foot and a duck's backside.

If you survive the first round you switch to an overhead view and have to fend off eight attacking beloms with a pole. Otherwise they trample you. This section only nets or loses you points, it doesn't hinder your progress in the game.

Should you manage to beat all the opponents in the first part of the game, you can go on to the kick a belom into a faulton's mouth stage. Hold the fire button down to gauge the strength of shot and then chip the ball. Belom, I mean.

Ahh, the thrill of it all.

The writers of the game and manual claim that the entire concept was developed from a fantasy role-playing scenario. Role playing? Forget it, there isn't any.

Yes, the music is nice, the graphics are reasonable and the animation and elements of humour are good, but where's the game? Can you imagine a sports game with only three events? Yawn City folks.

Grand Monster Slam isn't a particularly bad game, it's just that there is nowhere near enough of it. It isn't coherent enough and doesn't have the surface gloss to cover over its shortcomings.

Duncan Evans



Whoever wins, the beloms lose

Grand Monster Slam
£24.95
Rainbow Arts

Sound
Graphics
Gameplay
Value

Overall – 64%



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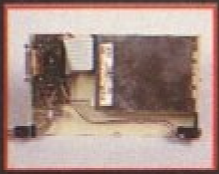
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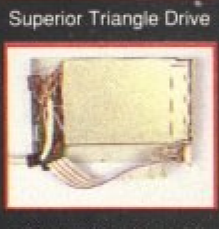
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MAYDAY SQUAD

A close shave with terrorists



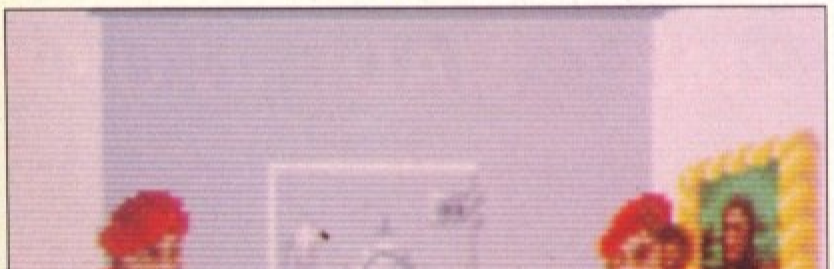
And you thought your passport photo was bad

RESCUE simulators are on the up, what with the astonishing total of two in the last few months. Unlike the other – Hostages – where the deployment of your team was a large part of the game, Mayday Squad has a fixed assault team of three that sticks together at all times. Which is just as well, for each member has a different skill which the others can't duplicate.

You can choose your team members from the second option screen, the first giving control and difficulty parameters. There must be one leader, one explosives expert and one communications expert, chosen from a list of three of each.

The leader is the best shot of the group, the explosives person a wizard at setting charges and throwing grenades, while the comms boffin picks locks and removes security devices.

The Lutonian Embassy – high wit and humour here – has been taken over by the Red Legion, a previously unknown band of international criminals, if such a thing is possible. They have a list of 143 demands, one of them obviously being that all razor manufacturers must close forthwith – not one of the terrorists has seen a shave in months.



One more and we'll shoot the plant

Unknown to the beardies, the Ambassador's daughter is hiding in one of the rooms. It's your job to find her and take out as many terrorists as possible.

The three brave folk trog around the embassy in what Tynesoft calls a Modified First Person Perspective and what the rest of the world calls a 3D maze. Most of the doors in the embassy are locked, so you'll need to call in the comms person. As it's a good idea to keep the squad leader leading the pack, you'll have to keep swapping which member you are controlling.

Most rooms contain at least two terrorists, so again you'll have to move rapidly from the movement icons to the action screen to off the opponents of Freedom. A joystick is no use here – make sure you choose the mouse option.

Each team member can take between 20 and 50 shots before copping it, but if you find the correct room you can be cured by the resident doctor. This is very necessary because many rooms are booby trapped and as you must search for useful objects, you often set them off.

Hidden doorways, stairs and objects lie in wait for those who search, so the danger element is unavoidable. Once the time is up the terrorists all escape in a helicopter, pausing only to kill anyone they meet.

I guess the graphics fall into the "sort of OK" category, but the doors and objects are all identical. The entrance hall is the worst offender – four doors, north, south, east, west, two terrorists. No matter which way you turn, the view doesn't change.

The end-game sequence is neat, with all sorts of tabloid reports on the siege. Very nicely done.

Tynesoft should have kept this game either purely strategy, which it is partly, or purely arcade. It falls exactly between the two stools by picking a few bits of each. You might like it – I wasn't stunned – but see it running first.

Stewart C. Russell

Mayday Squad
£19.95
Tynesoft

Sound
Graphics
Gameplay
Value

Overall – 63%

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THE REAL GHOSTBUSTERS

Any old port in a storm

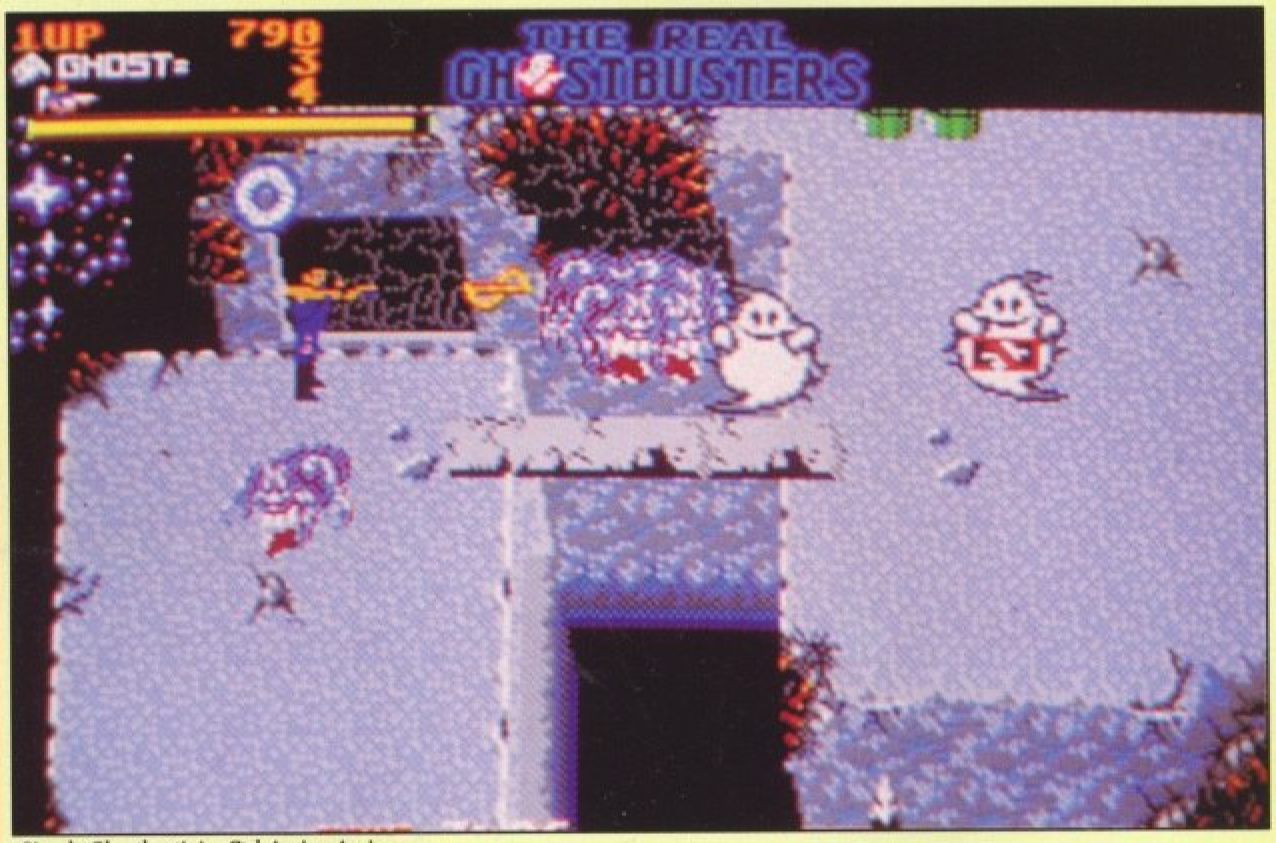
PRODUCERS never seem to be happy with resting on their laurels. They always feel the urge to produce a series of follow-ups, the sum of which is usually considerably less than the merit of the first. So when we got Ghostbusters, and all the related paraphernalia, it would only be time until the spin-off series followed.

Instead of using people, the spin-off was a cartoon, The Real Ghostbusters; it's pretty amusing too, if you're not into overly cerebral stuff. So now Activision has got the conversion of the arcade game of the cartoon of the film.

The original arcade machine, by Data East – a company not renowned for its originality – is a mildly enjoyable affair which plays like a demented Alien Syndrome. In it, the city is about to be taken over by ghosts, so The Real Ghostbusters have to save the city by shooting them and then beaming them into the containment backpack. The whole thing is filmed in a semi-overhead view, with the first level taking place on top of skyscrapers.

Ghosts come in many shapes, colours and flavours. Werewolves and mummies are fairly innocuous, only being nasty when touched. Other spooks are a bit more unpleasant, with the large purple mutant wombles, who shoot projectiles in all directions, being the worst.

At the end of each level there is a big guardian which must be defeated to get the key to the next level. Yawn. Oh, and before the lack of interest overtakes me, some ghosts leave bonuses which can help or hinder you. Zzzz.



Simple Ghostbustin' – Ctrl-Amiga-Amiga

OK, that's the plot over. Now for the whinges. The arcade machine sported very smooth, clear graphics and killer sound, which is the minimum requirement for a coin-op to keep its head above the water in today's arcade. Well, someone at Activision must have thought, "It's only a conversion, and since we've written an ST version let's use that".

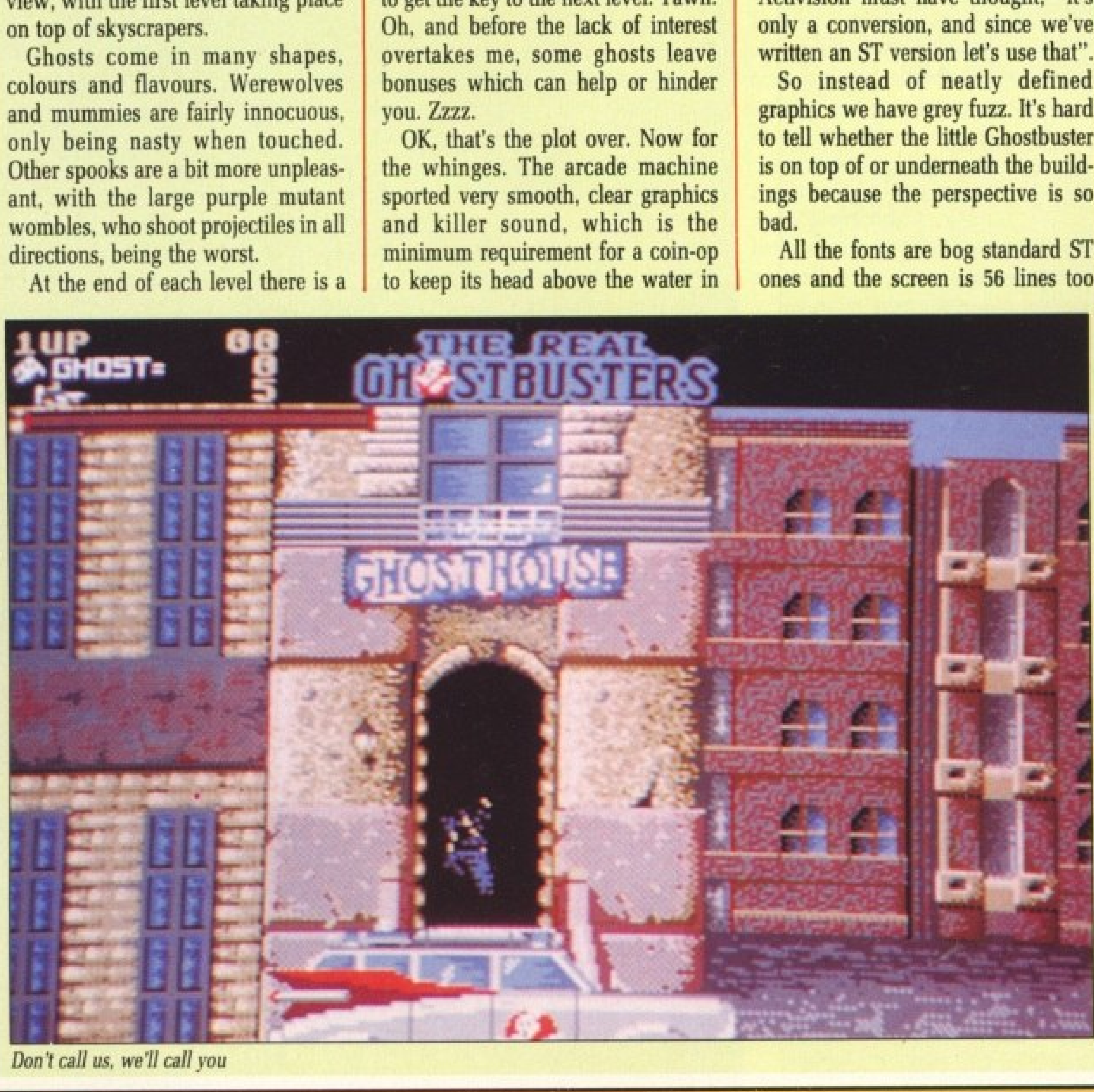
So instead of neatly defined graphics we have grey fuzz. It's hard to tell whether the little Ghostbuster is on top of or underneath the buildings because the perspective is so bad.

All the fonts are bog standard ST ones and the screen is 56 lines too short. OK, so maybe the retort is that not all machines can do the 256 line PAL screen – but there have been documented methods for telling whether a machine is PAL or not for at least two years, so that doesn't wash.

Scrolling is fairly slow and none too smooth, and the sprites are badly defined and flicker. When your person cops it – maybe twice in the first three seconds, if you're good – all it does is put its hands on its head. No noise, nothing. I used to wonder why I got "Game Over" so often until I realised it was meant to be a death sequence.

The tune is not bad – a kind of Bustin' the House, Frantic Remix – nor is the two player gameplay if you're used to a CPC. Discerning Amigans, which of course you are, should avoid. Don't touch this even with something bargepolesque.

Stewart C. Russell



Don't call us, we'll call you

The Real Ghostbusters
£24.99
Activision

Sound

Graphics

Gameplay

Value

Overall – 24%

FRIGHT NIGHT

Fangs, but no fangs

CONTRARY to what you might believe, Fright Night isn't based on the film of the same name, though it claims to be. It is instead an allegorical interpretation of Britain today.

Primarily, you must wander around a superficially well-decorated house, draining the life force from all its inhabitants, while at the same time fending off the protestations of previous victims.

No, no, this has nothing to do with vampires at all. It's all a very clever piece of subversion from those chappies in Cornwall who would have you believe that Fright Night is an adaptation of the RCA- Columbia film and that if you love being scared, then this'll be the game of your life.

Yes, well, not really. I don't recall the hero of the film being a vampire, do you? More a frightened young lad trying to convince the dopey porkers that the guy next door is a vampire. Well that goes out of the window, and how on earth you're meant to be scared when it's you who is doing the nibbling, I don't know. I wonder whether the programmers have seen the film.

Anyway, once you get past an excellent title screen and some brilliant sound effects – pump this through your hi-fi and turn the lights down – you find yourself emerging from a hard day's sleep and your nice warm coffin.

You are Jerry Dandridge and you've got just 12 hours to suck the blood from everyone in your house. An icon down on the left in the shape of the moon slowly fading from sight marks the passage of time, while a picture of yourself indicates your current health.

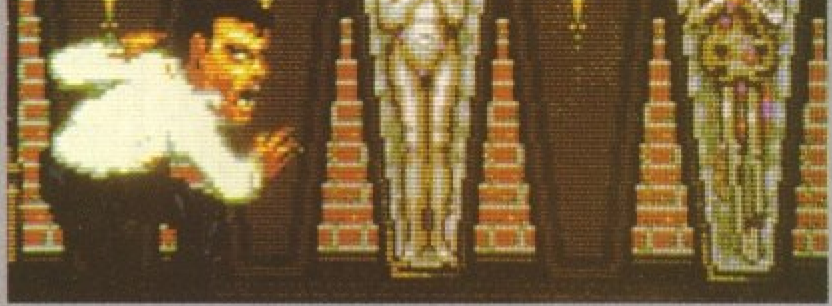
On encountering something detrimental to your death force, such as a Bible or a cross, layers of skin peel from Jerry's mug – they have the same effect on me, strangely enough – which wasn't pretty in the first place. A third icon indicates the strength of your dinner's faith, and correspondingly the amount of harm said believer can inflict when they get the holy water out.



Every night I came home expecting to see my dinner on the table, and there you are, legless again

Jerry is superbly portrayed on screen in what is basically an arcade adventure with re-drawn screens. He is large, well animated and crouches and leaps quite quickly for someone who looks so ill. Unfortunately as soon as any other sprites appear on screen, everything starts to judder and slow down. Considering there's no scrolling, this is ridiculous.

On Monday, the first day of your adventures in Vampire Land, there are only two victims to bite and nothing to hinder the procedure. If you're squeemish look away, because as Jerry bites the blood spurts.



Now where did I drop that contact lens?

From then on you get progressively more victims to bite and more ghosts of past victims to chase you – the topless green woman is rather tacky, Mr Lyons – and inflict damage, plus more rooms to your house. Obviously someone is a dab hand at DIY, because whole new floors are being put in every day.

That's all there is to Fright Night. The graphics are excellent and the SFX are nothing short of brilliant – I love the slurping noise when you bite someone, which restores your health incidentally – but the gameplay is very, very shallow. It's also extremely difficult to get past Tuesday.

Duncan Evans

Fright Night
£19.95
Microdeal

Sound
Graphics
Gameplay
Value

Overall – 64%





Tripping the type fantastic

Standard printer drivers are great for integration but often result in chunky output. Rupert Goodwins looks at a program which offers a solution

DESKTOP PUBLISHING, two words that send computer salesmen into paroxysms of delight, users into fits of sighing and bank managers to the bunker. Give us enough money, says the DTP brigade, and you too can typeset your letters, books and leaflets. For most computers, enough money has to cover laser printers, hard discs and special displays. With PageStream, the Amiga plus cheap printer gets the chance to do it all.

Can the Amiga cope, or is high quality output just putting a brave face on a dotty dream?

PageStream, from Soft-Logik, has several claims to be the best Amiga DTP package going. First, it goes to great lengths to generate as good a quality of output as your printer can produce. Second, it combines word processor and art program facilities with typographical effects. Third, it works on a single-disc, unexpanded A500.

Soft-Logik makes great play of its user interface – unsurprising given that PageStream has an Atari ST ancestry. To the Amigan eye, it's just another competent, logical use of Intuition, albeit with some nice touches. It's easy to forget that to make something as complex as page design accessible through simple menus requires a great deal of work.

Getting going is simple. There's no protection of any sort (isn't it nice to be trusted?) – and starting involves putting a copy of the master disc in the drive, booting the computer and double-clicking on the PageStream icon. No setting up is needed, at least for a 1 meg Amiga. Later the program will ask for its fonts, provided on a separate disc.

The major difference for 512k machine owners is that they should

stop the startup sequence and resize all the windows to free as much memory as possible – there's a detailed description in the documentation of what to do. Otherwise, the only difference between small and large memory sizes is in the amount of document and the speed of operation. All the features remain.

The program starts up in interlaced mode unless told not to, displaying a large blank page with a menu bar along the top of the screen and a tool palette on the right-hand side. It's black and white to start with, although colours can be modified to minimise flicker. Colour graphics are fully supported and the screen can be configured to use 2 colour mode (fast and memory-friendly), 16-colour mode (slow, hungry), or anything inbetween.

STANDARD line-drawing gadgets – circles, geometric shapes, a text icon, column definition and so on – can be picked up from the tool palette – a window of its own that can be moved around the screen or sent to the back of the display. Flexible, but if you move it on top of the document the pointer type doesn't change back to an arrow when you're trying to choose a tool.

The first thing to do is to start a new document. PageStream follows most Amiga conventions. The File menu is first on the menu bar and has the usual New, Open, Close, Save, Save As options available by mouse or Amiga-key selection. Unusually, all menu options are also getatable by the Esc key and one or more following keys. The Fonts menu, for example, pops up if Esc 1 F is typed in. A legacy of the ST perhaps, but a useful shortcut. PageStream multitasks properly, and the Workbench and CLI can be started up from within the program.

The only other place where PageStream departs noticeably from normal Amiga practices is when the mouse is being used to lasso, draw boxes and so on. Normally, the pointer is positioned at the beginning of the area to be encompassed, the left button pressed and held down while the mouse is moved to the final position, where the button is released.

With PageStream the button has to be released before the mouse is moved and pressed again when the movement is finished. A small point, but one that I kept getting wrong because almost everything else does it differently.

Once the page size has been chosen from 11 preset types from Business Card (nice) to A3, or a custom size, the screen changes from blank to a grid of dots which show unused page area. The next step is to define columns or areas on the page where text or graphics will go. Columns can be drawn freehand or automatically allocated – once an area is defined, the dots are removed and a blank patch displayed, giving a clear view of the layout.

INTRODUCING text is simply a matter of choosing the icon from the tools palette, clicking on the column where the text is going and selecting the Import item from the File menu. Choosing Text brings up a list of files. Clicking on the name of a directory moves to that directory and choosing the special <Root> file from the top directory brings up a list of the assigned devices. There are no buttons for DF0 or DF1, so it's quite difficult to ask the computer to display files on a changed disc.

Choose a text file and the menu changes to show a list of text types it knows about. On the review copy this appeared to be limited to Ascii, although Word Perfect and other popular file formats are available. Text is sucked into your document. If you've so selected, it automatically

▶

A C man's lamen

/*

The problem I find when I'm looking at lines
Of programs all written in C
Is that the syntax and grammar resemble the stammer
Of a dyslexic demoralized bee

I'll bet any man here (I'll wager a beer),
Can't guess how to copy a string
The mess is dramatic, all [
. & _ !

Dointers collected, and thrice indirected,
Collated in STDUCTs and compiled
When traced by debugger can make coders shudder
And conditionals drive a man wild

I don't wish to seem bitchy, but if only old Ritchie
Had been strangled at birth by a nurse
And the fate that I've planned for all Kernighan's clan
Is unprintably several times worse

I find that the pain begins with the MAIN
The only way out is to hack it
The one bit of syntax that keeps my mind intact
Is the very last }

I HOPE THAT THIS ODE IS CLEARER THAN CODE
I WRITE IN THAT MONSTROSITY
YOU MIGHT THINK THAT PASCAL S A BIT OF A RASCAL
BUT THE ULTIMATE S D IS C

My program is calling (in structure appalling)
I must finish my poetic plea
But, let's all face it, use FORTH, LISP or BASIC
Whatever you do, don't use C

*/

(Translator's guide to pronunciation:

- [= open square bracket
- . = dot
- & = ampersand
- _ = underscore
- ! = pling
- } = close curly bracket
- * = a star

A wide selection of fonts which look good without the aid of a laser printer

flows from column to column and from page to page, otherwise columns are separate from each other.

Next, start putting in headlines using different fonts. Choose the part of the text that needs to be prettified by holding the left mouse button down and dragging the pointer across it; inconsistent but never mind.

Then up to the Style menu, where one of the fonts, each in a wide variety of sizes, can be chosen. The final touch is to decide whether to add a special effect. Again, there are lots to choose from; underline, bold and reverse (white on black) are some that everyone else does, unlike mirror, shadow, backslant, upside-down...

With a little diligence a document can be made totally unreadable with such style that nobody'll notice.

PAGESTREAM uses its own fonts; it can't use those from other DTP programs, although it can make use of downloadable fonts for PostScript printers, which gives it access to the whole range of free and commercial PS type styles.

The 10 it comes with include versions of Helvetica, Times, Letter Gothic and Roman, the rest being more unusual and perhaps better left for headlines. Ten might not seem a lot, but many professional publications get by with two or three. Soft-Logik is designing more.

Graphics importation is trivial. Define a box and choose a picture from a disc. It can be scaled to fit or a portion snipped out and pasted in. Once in, it can be moved around the document, tilted, twisted or rotated to taste.

Another nice touch here. As the parameters for tilt and rotate are being set, an animated box in the menu shows what the effect will be on the final object. The effects can be applied to any object on the page, including text.

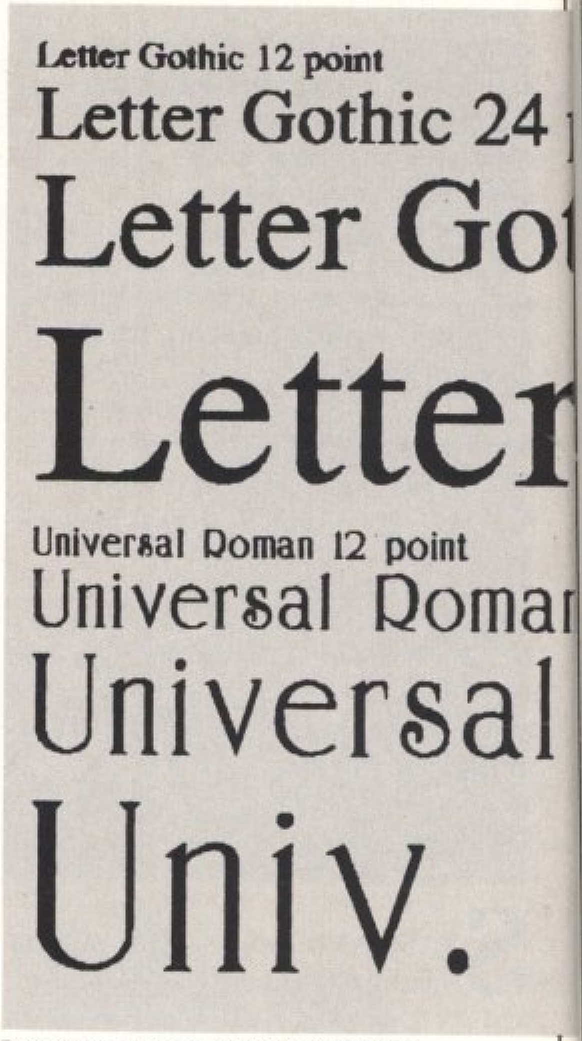
Any object can also be dumped in the middle of a text column and the text made to flow around it. While this is good for simple boxes in the middle of articles, it also follows more complex shapes and can, with care, produce stunning results. Graphics can be filled with patterns, coloured and edited. The PageStream facilities aren't as good as DPaint, but they're more than adequate for the purpose of smartening up an existing picture.

Likewise, the text editing bits are limited but entirely relevant. There's a spelling checker, a hyphenation rulebook, text formatting and kerning where two letters snuggle up close to each other because their shapes are mutually compatible, like W A. Without kerning, there's a lot of space between them and it looks odd. DTP might not make everyone into typographers, but it's teaching the world a whole new set of jargon.

Two more powerful features are macros and tags. Macro assigns a sequence of keys to a function key; as all the menus can be accessed from the keyboard this allows complicated operations to be repeated by a single keypress.

Tags are similar, but devoted to setting up the text. Tags are named, so one called Headline might select a big bold font with automatic justification, one called Byline might be small with italics and underlining set. This lets you set up a consistent style and use the same tags week after week to get the same effect. PageStream doesn't have style sheets, which are similar to tags but also set up column sizes. Sensible macros should do much the same.

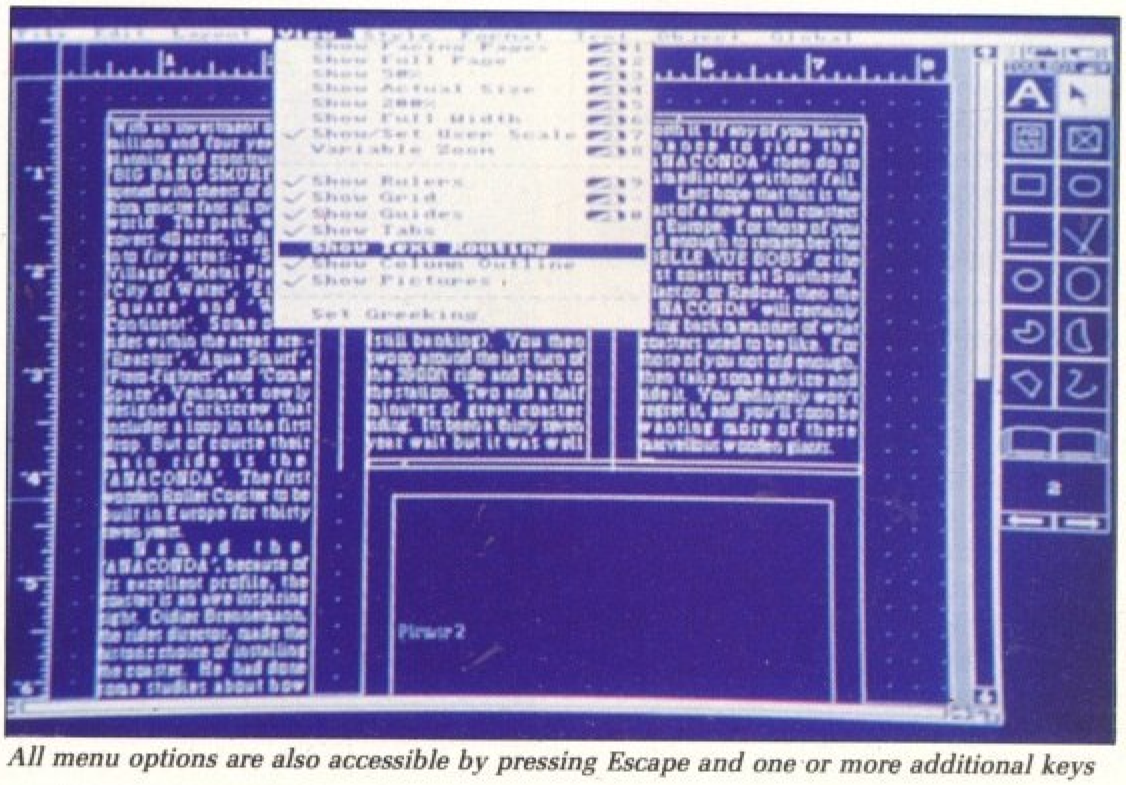
WHERE a common feature isn't on a menu it can usually be emulated. There is, for example, no facility for drop caps – the large letters with which paragraphs like this one start in *Amiga Computing*. But if you want drop caps, you can create a box, type a letter in, change the font size, and then tell PageStream to make text flow around it. Drop the box at the beginning of a column, and



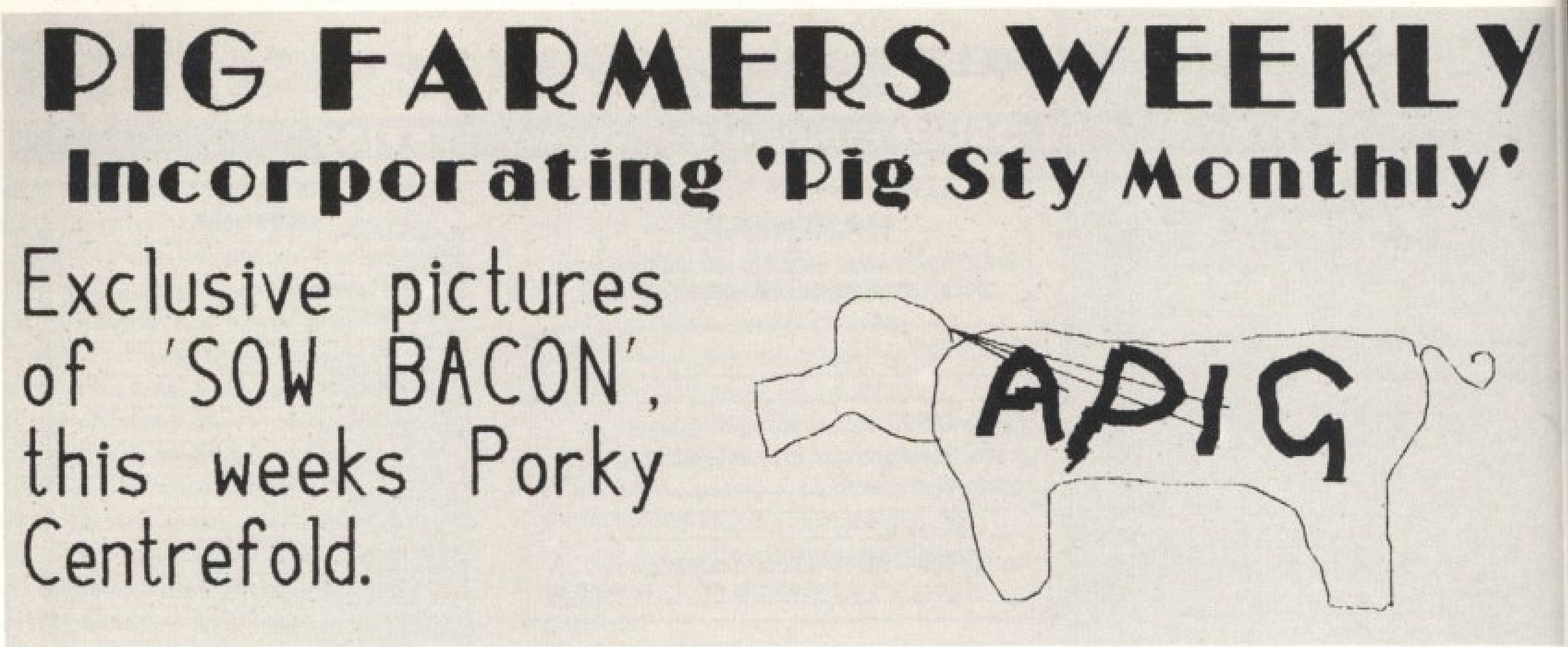
Laser output gets rid of the jiggles

voila – drop cap. With macros and tags it should be easy to automate.

PageStream's simplicity of operation was immediately apparent when I started to use the thing. I've used DTP programs on Apple Macintoshes and IBMs, some costing more than the Amiga itself, and PageStream must be my favourite for ease of use, if nothing else. Things that took me hours to work out on other programs were uncannily intuitive – I wanted a white-on-black



All menu options are also accessible by pressing Escape and one or more additional keys



The lines radiating from the back of the pig's head reveal a bug in the hardcopy routine. They were not visible on the screen

◄

headline, peek at Style and there it is in, er, black and white. And it's hard to think of things that aren't available as a result; it's a narrow-minded fellow who'll tire of trying out new features within the month.

The program has its bad points. Perhaps the most annoying is the speed of operation – it can take a good few seconds to redraw a page after a change, and if you, like me, tend to type fast and make mistakes errors can build up.

It's frustrating to watch the computer redraw the whole screen because you've inserted a letter in the wrong place which you know you've deleted, and then watch the computer redraw the screen again as it finds your delete keypress.

This is made worse by one of the PageStream bugs. Sometimes, when working with graphics, moving stuff about or changing the size of an object, bits of old screen get left behind when the area around the object is redrawn. This can build up over a few edits to a point where it can be difficult to see what's going where. Making the computer redraw the entire screen fixes this, but the only way to do it is to change to another page and then change back.

Any notion that this is in some way slow is swiftly – OK, lethargically – dispelled by the printing. A single page can take 10 or more minutes, and a reasonable document would give the Galapagos Islands time to evolve three more species of finch.

There are good reasons for this – the first is that PageStream generates its pages mathematically. Instead of picking a font and enlarging or contracting it to match the text in the document, it draws the outline of each letter according to rules and then fills it in.

And this leads to the second reason for it being so slow – the output is very, very good. I used a 24-pin printer *(he used* my *24-pin printer. Ed)*, which, for the first time, showed signs of being worth all that money.

PageStream will drive any printer that Preferences knows about, as well as PostScript-compatible laser printers and typesetters. It will also handle colour separations, which makes it interesting to design and advertising people. Its lack of speed is forgivable, but it would have been nice to have had some indication of how long it would be to the end of the printing.

OCCASIONALLY PageStream will crash, either with a Guru or straight into a reset. I provoked this a couple of times while experimenting. It seemed to happen when a lot of text was imported into a column that was far too small, or tags were set up with ridiculous values. When I was doing sensible things, PageStream behaved sensibly, but it isn't a rock-solid product and liberal use of the Save option is recommended.

The documentation is delightful. Well indexed and organised, it starts with a brief discussion about typography and leads into three fun tutorials.

Not perfect – there are mistakes in the index and some odd characters in the text. But there's a really useful pictorial index, with each menu entry tied to a page number, which makes up totally for the lack of online help that isn't there because PageStream works in 512k.

And work in 512k it does. Printing is even slower, so there's a straight trade-off between memory size and patience, but it works. Given that it uses cheap dot matrix printers to the limit, it's the automatic choice for Amiga DTP on a budget.

It's got plenty to offer the more sophisticated user too, all that careful memory management results in a lot of room for documents in bigger machines. The only cloud on the horizon is reliability. PageStream is a worthy competitor for Professional Page. More than that, it's a match for the rest of the world.

REPORT CARD

PageStream
Soft-Logik/Silica 01-309 1111
£171.95

EASE OF USE..........
Because the programmer had a good understanding of how to design a user interface, PageStream is a pleasure to work with. Intuitive.

SPEED......................
The only major bugbear with the program is the time taken to redraw and print files. Printing is hard work.

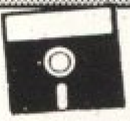
VALUE ....
For under £200 this is great value. If you are really fussy about quality you might be better off struggling with the TeX language.

OVERALL 88%

Marred by a few bugs, PageStream is the best all round DTP package for A500 owners with a lot of patience.

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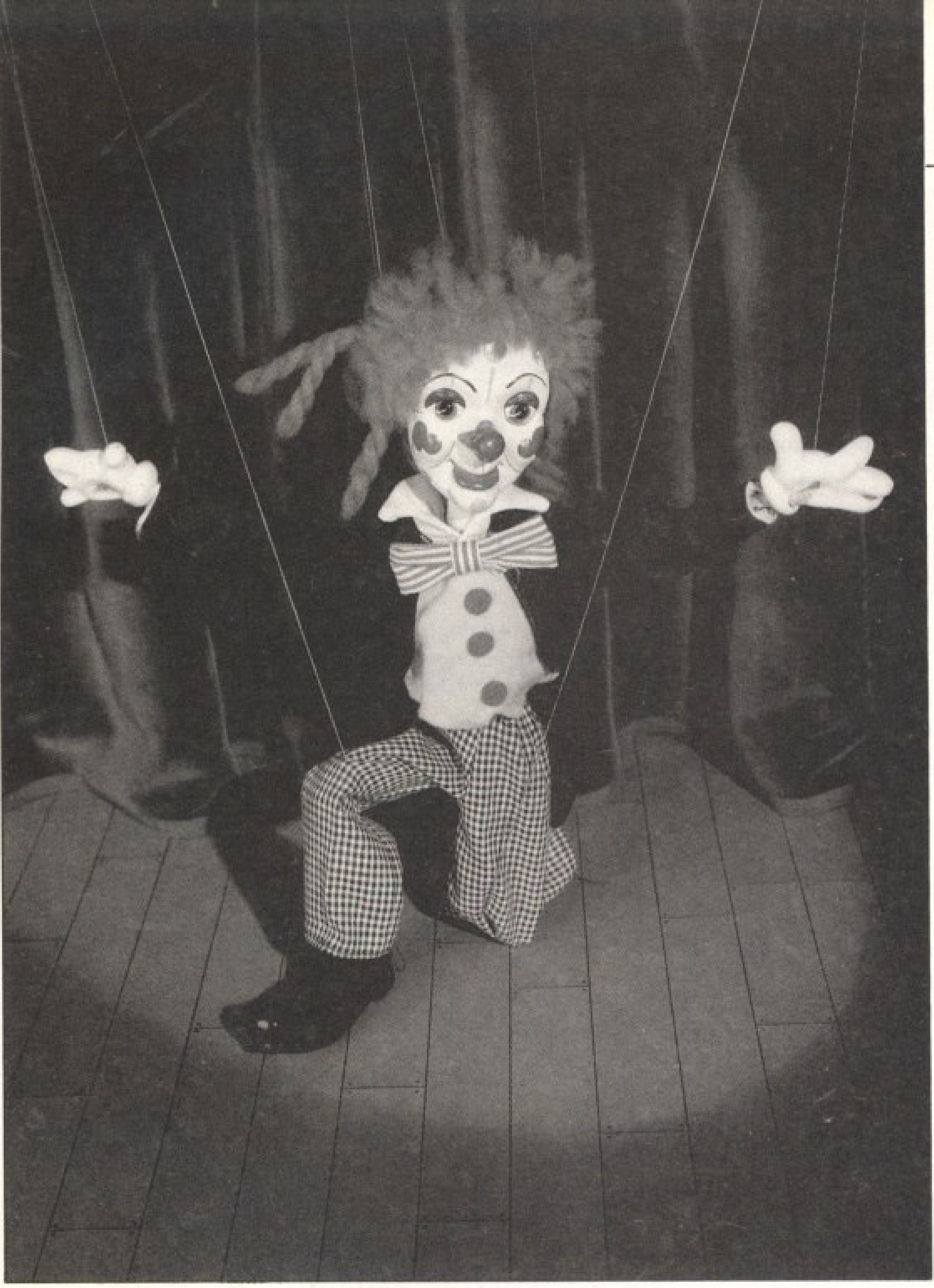
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You ain't heard nothing yet!

John Kennedy gets wired for sound

YOU'RE the typical Amiga owner are you? Look at you, standing in the newsagent's in your grey suit leafing through the magazines in the hope of finding something interesting. Wouldn't you rather be at home making strange noises?

Go on, admit it – you're a weird noise freak. You're only really happy making ping noises or some other audio equivalent to throwing up. You can't fool me. I know what you're like. So, especially for you, this month we'll explore the wonderful AmigaBasic commands for making sounds.

The Amiga is a rather special computer when it comes to sound generation. Most micros have a dedicated sound chip which produces various tones at different volumes. By design, these chips can produce only a limited number of sounds. To understand how the Amiga's sound chip – called Brian, or is it Paula? – differs it is necessary to get into the realms of some secondary school physics. Since we have the greater part of the column to go, why not?

Sound is a phenomena caused by the vibration of air molecules. When an object such as a tuning fork is vibrating, it moves air around, causing little packets of sound energy to be transmitted. The analogy normally used is that of a stretched slinky – you know, those long springy things that walk downstairs on their own.

If you wobbled part of a stretched-out slinky back and forth, small waves of slightly stretched-out and slightly compressed coils would move down the length of it. Although the position of the spring as a whole has not altered, small parts of it have momentarily changed their positions, causing the wobbling to be transmitted down the spring.

So it is with sound: The air molecules around a tuning fork bump into other air molecules, which bump into other air molecules... until some air molecules bump into your eardrum and your brain perceives what it takes to be a sound. Technical stuff, eh?

The problem as to whether a tuning fork would make a sound if there was nobody there to hear it is a silly one. If there was nobody there to hear the sound, there would be nobody there to hit the fork. Thus, it wouldn't make a sound in the first place.

I suppose you could hit it and run away very quickly, but then you

would be so out of breath that by the time you had finished puffing and panting the fork would have stopped making the sound anyway. This is one of those problems that is best not interfered with. A bit like programming in C.

NOW we come to the part with the graphs in it. I like graphs, don't you? A picture, they say, is worth a thousand words. And as I get paid by the word I would like to point out to the editor that I drew the three graphs all by myself.

A tuning fork vibrates in a very regular manner. If you could attach a felt tip pen to the end of one of the moving limbs and move the fork at a set speed over a piece of paper, you would be very silly. You would also get a graph that looked a little like Figure I, which is what we in the trade refer to as a sine wave.

Sine, shortened to sin – I don't know why either, for all the difference one letter makes it's hardly worth it – is a mathematical function that can be used for all sorts of things that usually involve triangles and circles. In our case the sin wave is the smoothest and purest wave that can be produced. Look at the graph again – no sharp points, completely regular and quite boring.

The horizontal axis – that's the flat line in the middle – can be taken to represent time. Moving along the axis from left to right will give us the description of the sound wave at subsequent moments in time. Thus the spacing between the peaks of the graph gives us a measure of a period of the time. The time, which is a very special thing, is actually called the *period* of the waveform.

The formula *frequency = 1/period* gives is the frequency which, put more simply, is the pitch of the sound. The shorter the period, the greater the frequency and the higher the pitch. The frequency of sound is measured in units of Hertz (Hz), named after the car rental people who invented car radios. Middle C – a note in the middle of a keyboard – has a frequency of about 520Hz.

Most computers make these sound wave vibrations electronically, although on some models you could be forgiven for thinking a little man was inside hitting tuning forks. The electronic signals cause the paper cone in a loudspeaker to vibrate, starting those air molecules a-bumpin' and a-bashin' into one another. The waveforms produced are rarely sin waves. More usually they are square waves, as shown in Figure II, or a trianglar shape called sawtooth, Figure III.

The Amiga is remarkable in that it allows you to choose precisely the shape of the waveform you want. You could have the standard sin wave, a square one, or even one in the shape of a house.

And as any sythesiser player will tell you, shape is everything. A sin shaped wave sounds like a flute or a whistle, a saw-tooth shaped wave sounds like a violin or a trumpet, a square shaped wave sounds like an oboe or a clarinet, a house shaped wave sounds terrible.

I GUESS it's about time we got down to making those noises, so boot your AmigaBasic, roll up your sleeves and make sure the computer is wired for sound. If you are using a modulator the audio sockets on the computer are connected via a Y-shaped lead to the socket on the modulator marked Audio In, otherwise switch on your hi-fi amplifier and connect up the Amiga to the Aux Input.

AmigaBasic supplies us with three commands to make noise: BEEP, SOUND and WAVE. We can dispense with BEEP straight away – it just goes "beep". SOUND, on the other hand, provides us with slightly more variety. It can have up to four parameters. The first two are obligatory, either or both of the last two can be left out.

SOUND: *Frequency,duration, volume,voice*

The *frequency* is the property of pitch we have already discussed. Units of Hertz are used, so a value 520 is almost middle C.

The *duration* must be a number in the range 0 to 77. The numbers are chosen so that a value of 20 means the sound will continue for about one second. For example, to make middle C play for two seconds, use:

```
SOUND 520,40
```

Now we come to the optional parameters. The first, *volume*, takes a value from 0, which is very quiet, to 255, which is as loud as it goes. If you leave this parameter out the computer splits the difference and chooses 127.

The second optional parameter determines the *voice* to be used. The Amiga has four voices, numbered 0 to 3, which means up to four sounds can play at the same time. They are split between the left and right audio channels. On a stereo set-up 0 and 3 play out of the left, 1 and 2 out of the right.

If you are using a modulator and a television, or a monitor with only mono output, this split is not noticeable since all four voices are ▶

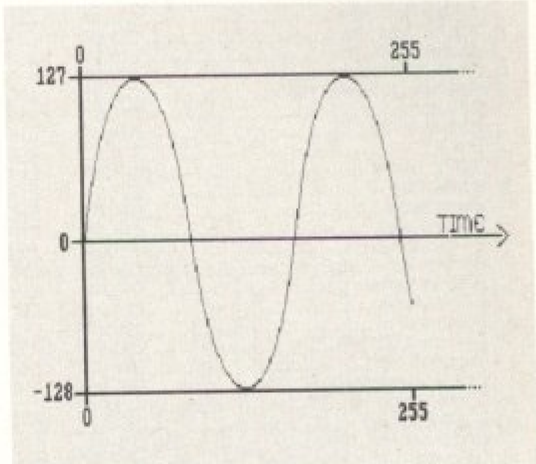


Figure I: A simple sine wave

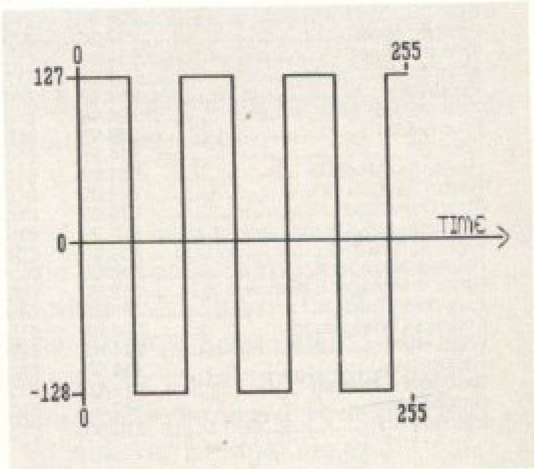


Figure II: A square wave

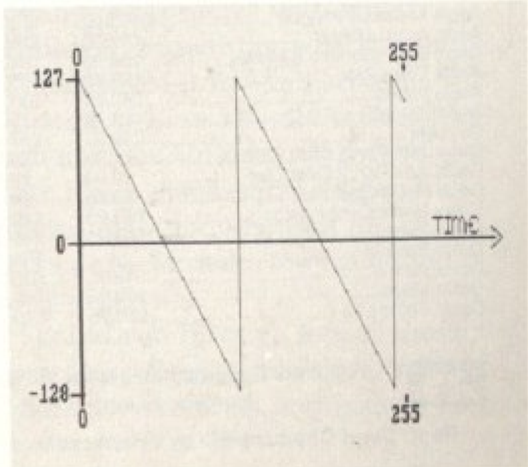


Figure III: A sawtooth wave

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mixed together and sent to the one and only channel.

To make a loud sound in the left channel and a softer sound in the right at the same time, try:

```
SOUND 500,20,255,0:SOUND 400,20,100,1
```

If we want to make two sounds happen one after the other we have to *queue* them. Make two sounds with the same voice and the computer will play them in that order. For example:

```
SOUND 800,20,255,0:SOUND 400,20,255,0
```

If you want a voice to wait for a bit, send it a sound with zero volume. In the first line of the following example both voice 0 and voice 1 play notes, but only voice 0 will be heard. When both have finished, the next voice 1 sound will be played, this time loud enough to be heard.

```
SOUND 800,20,255,0:SOUND 800,20,0,1
SOUND 600,20,255,1
```

You can instruct the Amiga not to take any sounds off the queue until you say so by using SOUND WAIT and SOUND RESUME. If you put SOUND WAIT at the start of a list of SOUND commands the computer will quietly queue them all without saying a word.

When the SOUND WAIT command is reached all the sounds will pop of the queue one after the other. This is useful when you have written a tune and want the voices to be totally synchronised.

FINALLY we get to the WAVE command, which allows us to specify the shape of the waveform for any one of the four voices. It takes two parameters:

WAVE *Voice, wave-definition*

The *voice* is the number from 0 to 3 again. The *wave-definition* is rather special though, and can take two forms, the first of which uses the word SIN. This resets the wave shape to that of a sin wave. So:

```
WAVE 0,SIN
```

will reset voice 0 to play only waveforms in the shape of a sin wave. This is the default value. The SOUND examples we've looked at so far have all used sin waves.

The second form of wave definition is where the fun starts. The shape is stored in an array of integers with at least 256 elements containing numbers in the range -128 to 127. These numbers represent the shape of the wave.

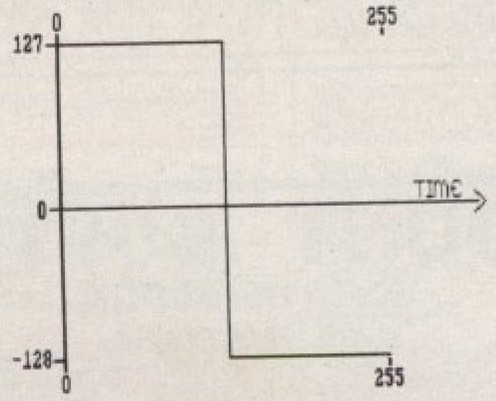
For instance, if the first half of the array was filled with elements of value -128 and the second half filled with elements of value 127 the resulting wave would be square. Listing I will create such an array and play a note using the new wave.

```
Start:
  GOSUB Initialise
  GOSUB Define.wave
  GOSUB Make.sound
  END

Define.wave:
  FOR a=0 to 255
    IF a<128 THEN
      square(a)=-128
    ELSE
      square(a)=127
    END IF
  NEXT a
  RETURN

Make.sound:
  WAVE 0,square
  SOUND 500,20,255,0
  RETURN

Initialise:
  DEFINT a-z
  DIM square(255)
  RETURN
```



Listing I: Square wave

The difference is subtle, but it is definitely there. If you can't hear it you must have been listening to too much heavy metal music and have permanently damaged your hearing.

To simulate explosions and gunshots a type of sound called *white noise* is used. White noise contains all possible frequencies with equal likelihood, something which is quite difficult to do from AmigaBasic.

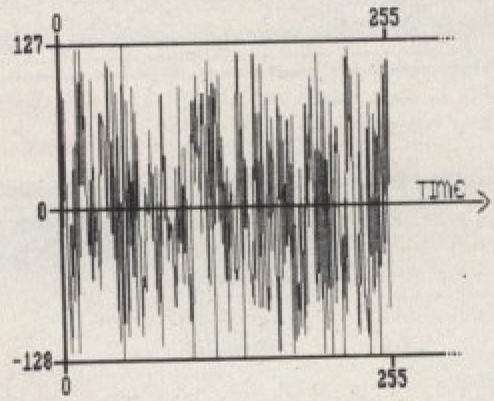
Listing II is an attempt to make such a noise. Unfortunately it sounds more like a mechanical digger, but notice how a loop is used in *Make.noise* to make the sound die away gradually.

```
Start:
  GOSUB Initialise
  GOSUB Define.wave
  GOSUB Make.noise
  END

Define.wave:
  FOR a=0 TO 255
    noise(a)=INT(RND*256)-128
  NEXT a
  RETURN

Make.noise:
  WAVE 0,noise
  FOR vol=255 TO 0 STEP -4
    SOUND 20,1,vol,0
  NEXT vol
  RETURN

Initialise:
  DEFINT a-z
  DIM noise(255)
  RETURN
```



Listing II: White noise

I could run through lots of similar programs which provide you with different waveforms, but instead I am

◄

going to give you Listing III – a program which you can use to draw your own wave shapes on the screen and listen to them.

The subroutine *Draw.wave* draws a box to put the wave into. Then it checks the mouse button to see if it has been pressed. If so, and the pointer is within the box, another element is added to the graph. This continues until the wave has been finished. If pressing the mouse button doesn't seem to do anything, try clicking it several times in the Basic window title bar, or press the right mouse button once or twice.

You'll find the routine that creates all the awful noises at the label *Make.sound*. First it assigns the wave shape to voice 0 and then starts a two second noise of freqeuncy 200Hz. Try changing this value or adding other SOUND commands to play a short tune with your new waveform. Bye for now.

```
' Make-a-Wave.
' Stretch the Basic window as large as possible before
' running. Press the LMB and wiggle mouse up and down
' within graph area.

Start:              GOSUB Initialise
                    GOSUB Draw.wave
                    GOSUB Make.sound
                    GOTO Start

Make.sound:         WAVE 0,shape:SOUND 200,40,255,0
                    FOR t=1 TO 2000:NEXT:RETURN

Draw.wave:          FOR a=0 TO 255:shape(a)=0:NEXT a
                    GOSUB Draw.box
                    xcord=60
                    element=0
                    WHILE element<256
Wait.for.button:      WHILE MOUSE(0)<>-1:WEND
                      y=MOUSE(2)
                      IF y>167 OR y<40 THEN Out.of.range
Set.wave.element:     shape(element)=(y-104)*2
                      element=element+1
Draw.wave.line:       LINE (xcord,104)-(xcord,y),1
                      xcord=xcord+2
Out.of.range:       WEND:RETURN

Draw.box:           LINE (50,30)-(582,178),1,b
                    LINE (60,40)-(572,168),2,bf
                    LINE (60,104)-(572,104),1
                    RETURN

Initialise:         CLS:DEFINT a-z:DIM shape(256):RETURN
```

Listing III: Draw your own wave shapes and listen to the results

The best tale ever told

Examine everything with Dave Eriksson

PUBLICATION of Professor JRR Tolkien's The Hobbit in 1937 and The Lord of the Rings in 1965 were two of the most important events in adventure history. Two books like no others.

The Hobbit game from Melbourne House shook the adventuring world, a Spectrum game with recognisable graphics, a game which had us puzzled over for weeks and months.

The sequels, Lord of the Rings and Shadows of Mordor, were buggy disappointments. Perhaps smarting under the criticisms, Melbourne House has pursued the theme of The Lord of the Rings. War in Middle Earth is a mixture of adventure, role playing and strategic wargame. It encompasses all three parts of The Lord of the Rings and for those who do not know the story a synopsis is given in the instruction booklet.

There are three main screen displays – full map, campaign and animation levels. The full map shows the entire area of Middle Earth involved in the game. Characters under your command are shown as blinking blue dots, evil forces as red dots and neutral forces as green. Time is halted while you look at it.

The campaign level gives a detailed scrolling view. Characters are shown as small figures and forces as a shield, its design in telling you who it represents. Clicking on characters, armies, towns or any other point of interest, will bring up a window telling you what or who is there.

The animation level presents a moving display. Messages passed to your characters are shown in a window. Characters walk or ride in from one side and move out to the other, occasionally sitting down for a rest or kip. Graphics are superb. Keep this level activated and the scene will change as your party moves to a new location.



In each display there are icons that enable other options to be actioned. You may look at the health of a character, see what forces are doing and their status, change the rate at which time passes, get a character to pick something up or use an item already held, change from one level to another, instruct a character or group to move to a place or in a specified direction and save the game position.

When opposing forces face up to one another you have the choice for each main character – and for groups such as 400 light infantry – of four actions: Charge, engage, withdraw and retreat. Fighting can make or mar the rest of the game, here the system used works quite well and is believable.

At the start you can only control three groups: Frodo, Sam and Pippin, Eomer with a small group of cavalry in Rohan, and Faramir with a group of rangers in North Ithilien.

SAURON has sent the Nazgul to the Shire because he believes that the Ring is somewhere in that area. Nazgul are deathless ancient kings who were given, and came under the spell of, the rings Sauron made for mortal men.

To get more allies you must meet characters or groups. As Frodo and his companions travel, they meet folk who offer advice. Read carefully, for some messages do not stay on the screen for very long. They usually indicate where useful objects may be found.

In the book, Frodo goes to Buckland, where he is joined by Merry. The four hobbits then travel east and meet Tom Bombadil (more advice) and then on to the small town of Bree where they meet a tall ranger, Aragorn. He takes them to Rivendell, where it is decided that the Ring must be destroyed and that the party to attempt this will be nine strong.

This Fellowship of the Ring is made up of Frodo and the three hobbits, Gandalf, Aragorn, Legolas (an elf), Gimli (a dwarf) and Boromir (a man).

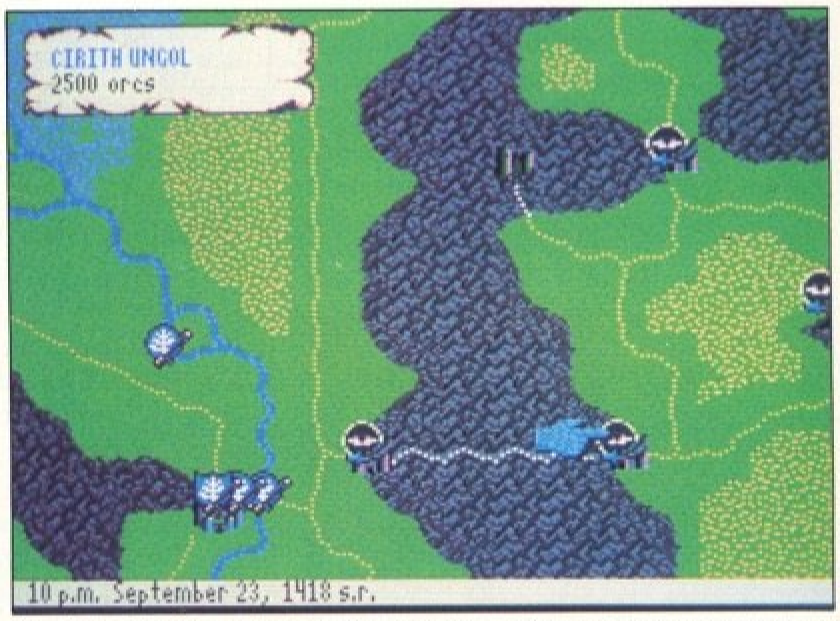
Unlike the book, where you only meet Eomer and Faramir much later on, the game enables you to make use of their services and friendship right from the beginning.

It is possible to get the Ring to the Cracks of Doom by several different methods. There is also the question of finding treasures that are hinted at. Who is to find them and when?

Combined might may be able to make a frontal assault on Mordor and get the Ring to Mount Doom.



Middle Earth, the area covered by both book and game

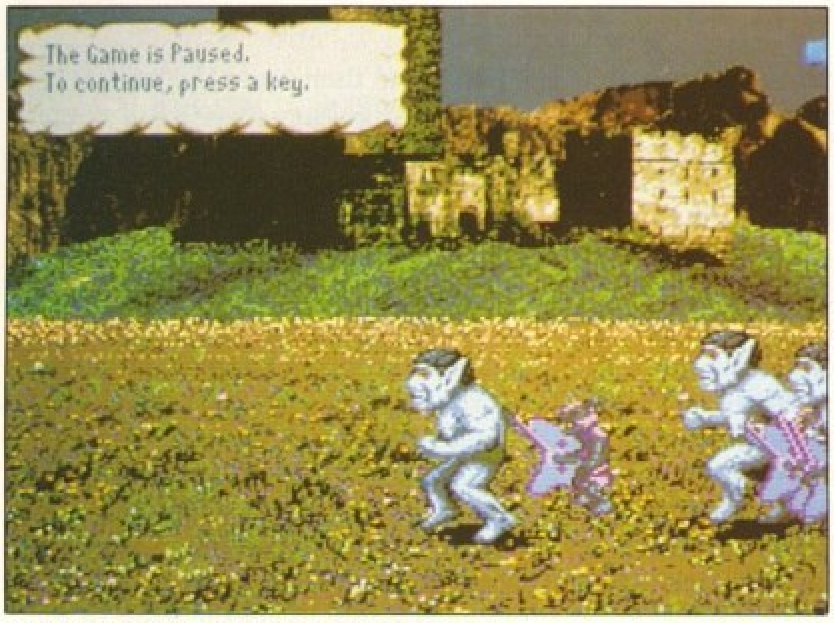


A campaign map showing the area of confrontation between Minas, Tirith and Mordor. Opposing armies are shown as shields

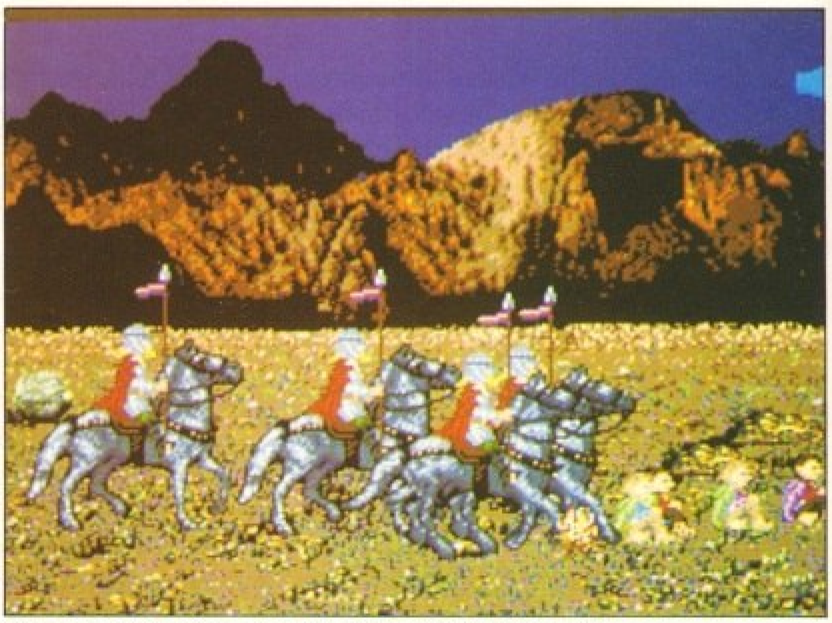


Frodo, Sam and Pippin meet a passing ranger on the journey to Buckland





A band of trolls and orcs up to no good outside Sauron's fortress at Barad Dur



The pace hots up as the hobbits and friends make their way to the Cracks of Doom with the Ring

Alternatively, as in the book, a mighty display of force may cause Sauron to overlook a small band creeping silently through a secret back door.

Your options are wide open. There are healing draughts in the Grey Havens, in a ravine north of the White Towers or in Tuckborough. There is mithril armour in Belegost and an ancient golden sceptre to the west of Annumias. There is a valuable hammer lost to the dwarves and a silver orb that will have the elves following you like the Pied Piper.

There is wood prized by the wise, elven shards, a red arrow and Thrain's ring. All these things could be useful, but do you have the time to find them?

INITIALLY the evil forces of Sauron remain quiescent – some slight movement but nothing openly aggressive. At a moment probably triggered off by the approach of the Ring, Sauron unleashes his armies. It's obviously useful to distract Sauron from looking too close to home.

It is possible to finish the game within an hour by getting Eomer to ride north to the Shire and escorting Frodo and friends into Mordor from the east. But apart from proving it can be done, this provides little or no real gameplay. None of the useful objects are found or used and the Fellowship of the Ring is never formed.

The time to feel good about this game is when you can do it as it was written in the book.

The operating system works well, but disc access when changing levels is a little slow. My version crashed a couple of times.

For those already addicted to The Lord of the Rings, this is a must. You will meet many of the characters who make the trilogy so remarkable.

This game is very much what you make of it. It definitely does not lose interest, you simply take a different path. What music and sound effects there are, are quite good, and the graphics are excellent, you can sit and watch Frodo and Co wandering around for hours.

REPORT CARD

War in Middle Earth
Melbourne House
£24.99

STORY LINE
No prizes to Melbourne House, just to JRR Tolkien.

AURA
Plenty of nail biting, plenty of detailed planning.

STAYING POWER
Variation in winning ways keeps game alive longer.

GAMEPLAY
Icon control works well with a very simple menu.

VALUE
Different ways to a solution give good value.

DIFFICULTY
Easy to win but difficult to follow the classic path.

OVERALL *90%*
A good strategy game with adventurous overtones.

STUCK?

Zak McKracken hints

CANNOT get anything from the baker? Keep ringing that bell. Wear the nose and hat to get past the alien in the phone company. Empty the fishbowl into the lamp to create a space helmet. Use the radio control to get the blue crystal.

Cannot get on the bus? Bang on it with something or play the kazoo.

To distract the air hostess, block the sink with toilet paper and put an egg in the microwave. You need the lighter, seat and oxygen which takes two distractions.

In the Sphinx maze follow the sun and enter the friendly eyes. In the Mayan maze type *what is* to find torches and light them with the lighter. Give book to tramp, whisky to guard, guitar to king, and golf club to shaman. You will need the flagpole at Stonehenge. When you fly to the cave in the giant's right eye only get the scroll and go straight back – you are short of time here. Face maze, map room? centre door, blue, green, blue, left.

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VISA

Driving a hardb



Simon Rockman checks out the Commodore A590 Hard Drive Plus and finds that it is more than just an easy way to keep your left foot warm

MULTI-TASKING is memory hungry. AmigaDos does incredibly well to work in 512k with an 880k disc, a fact best illustrated by the amount of memory rival systems need. OS/2 needs at least 2 meg of ram and a 20 meg hard drive. Unix isn't happy with anything less than an 80 meg hard drive. All three systems perform better with more elbow room.

Anyone who has added an A501 or second floppy to their A500 will know that it makes a big difference to the usablity of the system. That change is insignificant compared with the advantages offered by a hard drive.

Having established that you need a hard drive more urgently than you need to eat for the next couple of months, the Commodore A590 Plus might seem an obvious choice. But a hard drive should not be judged by the outer case alone. Few people bought the Commodore A1010 second floppy drive for their Amiga, the sensible shopper discovering that offerings from Evesham, Triangle, Datel and other likeminded *Amiga Computing* advertisers offered better VFM. Perhaps the same holds true.

The A590 is smartly coloured to match recent cream A500s – early ones were nearer to white. The styling matches that of the computer. It is small and neat, partly because the footwarmer power supply sits on the floor like the A500 one.

Common sense and ingenuity have dictated that Commodore has not repeated the mistake of putting the power switch out of reach. There is no power switch. The A590 is auto-sensing, switching on when the A500 powers up. This works both ways – the computer won't power up unless the drive is plugged into the mains.

The front has lights which show when the drive has power and when it is being accessed. The back has an RS232 look-alike connector which is actually a SCSI port (pronounced scuzzy) for connecting more drives, tape spoolers or even some laser printers.

There is a socket for connection to the power supply brick and a row of four DIP switches. Two look after the device numbers for adding extra drives, a third is reserved for future expansion and the last one sets the system to autoboot if you have a 1.3 Kickstart rom in your Amiga.

Slotting the drive on to the side of the computer needs a bit of courage and a hearty shove. This is a Good Thing because it means the whole unit is solid. Assuming you have a Kickstart 1.3 rom and the DIP switch is set on the drive, power to the computer sets the unit humming noisily into life.

WORKBENCH appears in about 15 seconds depending on what Startup-Sequence has to do. Kickstart 1.2 owners will have to boot from floppy. The disc provided has clickable icons which will make a 1.2 boot disc for you. From then on your Amiga is transformed.

Buying an A590 nets you three separate units in one box – a ram expansion, a hard drive controller and the 20 meg hard drive. Up until now getting this kind of kit together was a technojunkie's dream and a sane user's nightmare.

Ram expansion is the simplest feature; getting to the sockets is the hardest part of installation. The outer casing, the drive and then a metal cage have to be removed before you can get to the slots. This jigsaw puzzle is a result of keeping the unit small. Since you are probably only going to install ram once, I think it is worth it.

Memory can be expanded by adding chips to give 512k, 1 meg or 2 meg in addition to the ram fitted in your computer. It is worth noting that the memory in the drive runs faster than either the ram in the computer or the A501 expansion unit. This is because the computer's internal "chip" ram has to be slowed down to a speed which allows the custom chips to share it with the processor. The "fast" ram in the drive cannot be accessed by the custom chips and so can whizz along at full tilt.

Sitting between these two types of memory is the A501 with its "slow" ram. This cannot be accessed by the blitter, and runs at the same speed as

rd bargain



chip ram. When the new Fatter Agnus becomes available you will be able to have 1 meg of chip ram. Very new A2000s already have this fitted.

Some badly written programs do not like working in anything other than chip ram. NoFastMem cures this. To get the most from a legit program you would be wise to run it in fast ram, which can be forced by running FastMemFirst. Depending on your needs, one of these commands should be added to your Startup-Sequence.

Speed costs. The chips which need to be fitted are rated at 120 nanoseconds. This is pretty fast. Size counts. Each chip stores 256 x 4 bits (1 megabit) per chip. To keep power consumption down and so keep the heat generated to a minimum, the chips need to be CMOS as opposed to the cheaper NMOS. You will void your warranty if you fit the latter. Even with CMOS, a set-up with all the sockets filled still gets pretty warm.

All these factors combine to make the parts expensive. Suitable chips proved hard to track down, and then at a price of £22 each. You'll need 32 chips for 2 meg so it is not surprising Commodore supplies the unit empty.

COMMODORE is proud of the design work it has put into the interface. Lessons were learned with the A2090 and A2090a. When using overscan and interlace the main processor has a job looking after the screen. Expecting it to do any other work is asking a bit much. So if the hard drive interface takes too much processor time, the display has problems. This has been cured with the A590.

The new interface will cope with big drives up to 600 meg. And you can attach eight drives at a time using SCSI. There is no through bus so you can't plug any peripherals into the A590.

Getting data to and from the computer as fast as possible is the primary job of the interface card. For this reason it uses Direct Memory Access (DMA). Non-DMA drives use the central processor to read bytes from the disc and shove them into ram. A DMA drive uses its own custom chippery. This is not only quicker, it allows any other programs your Amiga may be running to work at normal speed.

DMA is very much faster and the Commodore set-up is guaranteed to understand how the rest of the operating system works. So when Kickstart and Workbench change, compatibility is ensured.

TWO types of drive can be connected, XT or SCSI. Both are better than the ST-506 sold with A2000s and IBM type PCs. Because there are so many IBM clones in the world, ST-506 drives benefit from economies of scale – SCSI drives are expensive, partly because they are made to a higher spec. A 45 meg SCSI drive *without controller card* will set you back £500.

Commodore has compromised and fitted a cheaper 20 meg XT drive. This seriously affects performance when compared with more expensive systems, but if it makes the difference between the system selling for £399, which I can afford, and £599, which I can't, I would much rather have a slow drive than none at all.

Speed freaks can either whip out the XT unit and raid the piggy bank to fit a SCSI drive – bye-bye warranty – or add an extra drive externally. This should see the performance improve from a data transfer rate of around 150k per second to a theoretical rate of more than a megabyte per second, but for that you will be paying over £1,000 for the drive, and the rest of the hardware couldn't match the speed.

A sensible upgrade would be a 40 meg drive with a 1:1 interleave, which refers to the spacing of data on the disc. Data is read as the disc spins past the head. Sometimes it is spinning so fast the drive can only cope with the data by pausing a while – like trying to drink a pint of milk without stopping – so the data is spaced out, with data from other files filling the gaps.

If the gap is one sector the interleave is 1:2. If it reads one, ignores two, reads one, the interleave ►







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is 1:3. The best case, with no gaps, gives a 1:1 interleave, which isn't possible with XT drives. The Epson or Western Digital drives Commodore use in the A590 have an interleave of 3:1 or 4:1.

Big 40 meg drives are faster than 20 meg ones because they have more read/write heads, so upgrading might be worthwhile, particularly since 20 meg does start to get a bit pokey after a while. Commodore has no plans to fit bigger or faster drives, the priority being to keep the price down.

DOCUMENTATION is good and clear. It errs on the side of caution, always advising you to park the drive heads. There are good explanations of how to use the CLI command Assign to install software and a guide to using the programs which come with the system. PrepHD allows you to re-format the drive; an Install icon copies the standard Workbench drawers on to the A590; Park is used before switch-off to prevent the heads from crashing into the disc.

The major utility is HDToolbox. This is the one you will need if you add another drive to the system. For a program which has to guide dumb users through a minefield of jargon it is very good, but you should read through the documentation and make sure you know the answers to all the questions you are going to be asked.

Reviewing hardware is often difficult unless something exciting happens, like it goes wrong for instance. If the box does what it is supposed to then there is little to get excited about.

What makes the A590 special, worth getting excited about when it works faultlessly, is the care with which it has been designed. Any faults are the result of having to keep the price down, something Commodore should be praised for.

There is a rash of hard drives appearing at the moment, most of them are at least 40 meg, but they will all have to go some to beat Commodore's Real Thing.

REPORT CARD

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EASE OF USE
Just plug in and go if you have Kickstart 1.3. Still simple for users who have older A500s.

SOFTWARE
The fast filing system improves drive performance while the new utilities, such as HDToolbox, make setting the system up much easier.

SPEED
Suffers from the use of a cheap drive but the good interface and extra ram make it a joy to use.

VALUE
At £100 more this would have been a good buy. For £399 there is no excuse for not buying one.

OVERALL 89%

Commodore has got it right. Smart design, a clever interface and superb system software. Even the price is

We don't need no education

John Ridge gives his views on learning kids what can't do sums or write English proper



Photo: Jooly

EDUCATIONAL software is a fallacy. It is dangerous to lean too heavily on etymology, but the word "educate" is derived from Latin and, strictly speaking, means "to bring up". On the other hand, the word "teach" is pure Anglo-Saxon and means "to impart knowledge or skills". Clearly there must be some overlap. But more than anything else, the difference lies in attitude of mind.

There are far too many educators in schools these days, all busily usurping the right of parents to bring up their own children in their own way. Or what is even worse, engaging in the damnable practice of using other people's children for experiments in social engineering. At the same time there is a dire shortage of what I would call genuine teachers.

The notion of a computer bringing up children is so ridiculous that I find the description "educational software" somewhat fanciful. I prefer to think of programs being designed to teach, or serve as teaching aids. They need not necessarily be written for children, although I imagine most will be.

At the last count I had nine grandchildren, all of whom have access to a computer at home. Not unnaturally my thoughts have turned to the possibility of trying my hand at writing a teaching program or two.

It would not serve our purpose to get bogged down in the quagmire of technical jargon which accompanies any discussion of learning theory, so I will be purely pragmatic. Think of me as a bearded grandfather who, although cuddly and loveable, is extremely wise, sensible and down-to-earth. That description, now I come to think about it, fits me perfectly.

PERHAPS the most important consideration, especially if a teaching program is intended for small children, is that of reward. It has to do with what is often called positive reinforcement. For adults and older children a sense of achievement or the realisation that a step has been made towards some distant goal is reward enough – small children need the encouragement of something much more concrete and immediate.

If an adult is present to heap praise on the child, well and good, but if the child has only the computer, then it is ▶

◄

the computer which must provide the reward.

I once wrote a version of Hangman in which the reward was an additional point to add to the score and the penalty was a little man falling into a tank of water with a splash. I imagined a child would want to prevent the little man from suffering such a sad fate.

The trouble turned out to be that it was a far more rewarding experience to see the man falling from a great height than it was to see the score increase by one. It paid to guess that a word should be spelt Qzxkv. That was not my intention.

Whatever others may tell you, don't write programs that need reasoning for very small children. They love rigmarole of any sort, whether it be a long list of animals chasing the old woman chasing the pancake, or their three-times table. What parent has not been driven almost to distraction by having to read the same storybook dozens of times in succession? But heaven help the parent who gets a single syllable wrong on the 59th reading. Small children learn by rote, and they learn well.

ANY temptation to be twee should be resisted. Children obligingly humour adults who appear to favour little furry rabbits, but they don't go a bundle on bunnies themselves. A furry stuffed toy is tactually pleasant and warm. A two-dimensional representation is neither, except by association in the adult mind.

Asking children to type their own name at the start of a program is a good idea – and possibly their age, because children are keen to advertise how "big" they are. The complications of using the Shift key to input the upper case letter at the start of a name can be avoided by a few lines of programming.

I think the correct use of "capital" letters and "small" letters should always be encouraged by example. If the child is beginning to be functionally literate, personalised messages may help considerably. Negative reinforcement by the use of messages reading, "Angela, my sweet, you are a nine-year-old cretin," should be avoided.

When my own children were small I found that if I put on an act of

►

Gunning for the schools

It is a long time since Commodore ruled the classrooms. Professor Rex Last examines what is being done to regain lost ground

WHAT is LGEM all about? Local Government, Education and Medical is the new division within Commodore UK aimed at key areas of computing, with Peter Talbot as national sales manager and Bill Owen heading contract Sales, which deals with government agencies, local authorities, schools, MoD and other ministries.

Today it seems ludicrous that an overpriced 32k machine should have swamped the market to such a degree that only a couple of other companies have managed to keep a toehold in the classroom. The BBC Micro, though, has had its day.

The first personal computer to find its way into the classroom was the Commodore Pet. Now the company is beginning a strong initiative to regain the position it once held.

The world has changed since the early days, and so too has the strategy. I talked to Bill Owen about the philosophy behind the Commodore move. His view was quite clear.

"The market has to be thoroughly explored first". Bill insisted. "There's no point going in with a black box with no software and expecting people to buy. Take the education world: There are two levels at which the market penetration has to be software led. The first is a recognition of the dominance of BBC Basic. The second is the development of specialist software".

It was very welcome to hear a big hardware manufacturer acknowledging the fact that educationists are too conservative, an attitude which is backed up by the huge amount of software written for the BBC.

So Commodore has decided that if you can't beat 'em...

And that's the background to the BBC Emulator. It offers most of the facilities of the BBC, sitting on top of the 68000 looking about as future-proof as anything can in the medium term.

Of course there are snags; one in particular about which I was concerned. I run a small company which markets occupational therapy software for the BBC Micro. Much of the work involves patients with defective or limited motor control and problems with hand-eye coordination, so some of the software needs specialised hardware add-ons like a custom concept keyboard, which is not available on the Amiga.

Devising an input port to accept a concept keyboard is just one area Commodore is exploring; Bill Owen and his colleagues are listening hard to what the customer has to say.

There's another area in which software takes a leading role. Specialist applications have mushroomed. Commodore is eager to exploit the Amiga's strength at DTP, speech, Midi, IV, CBT, graphics, video editing and titling. Market penetration must be software led and the development of appropriate software takes a prominent role.

Commodore is investing considerable sums in projects for the educational world and there's a Commodore roadshow of conferences on the Amiga and PC in education.

But surely the ultimate games machine is out of place in a classroom? I don't want my next generation zapping aliens when they should be doing homework. My guess is that this is a strength of the Amiga rather than a weakness – a strong link between school and home. Children will be happier with a machine they can use for education *and* games.

It will be fascinating to see how Commodore shapes up. Maybe the Amiga will turn out to be the new teacher's Pet.

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bewilderment and confusion they were eager to rush to my aid. I might sit scribbling figures on a piece of paper, muttering and grumbling to myself, quite unable to puzzle out how much 14ft of wood would cost me at half-a-crown a yard.

Sooner or later someone would come to my rescue, explaining how easy it was and demonstrating the method of calculation. Expressing astonishment, I would then speculate on whether it would be at all possible to use a similar method to calculate the price of a ton of potatoes at one-and-six a stone.

With me heading off in wrong directions and being rescued by my adviser, we would eventually find ourselves coping with problems that had yet to be touched upon at school. Instead of being hopeless at arithmetic, we discovered that we were really quite good at it.

In a similar way it might be feasible to make the computer appear capable of errors which a child could gleefully pounce on and correct. The simplest way would be to get the child to say whether something is correct or not, perhaps with randomly generated errors which presented expressions such as 6 x 12 = 99 or 7 x 8 = 13, and so on.

But I'm sure the machine could be made to appear subject to human fallibility in a much more subtle way than that, arousing a child to a state of excitement trying to catch it out making mistakes.

THE quickest way of learning to play the piano is to start giving lessons, so perhaps the same principle holds when one starts to "teach" a computer something. As soon as one begins to contemplate the possibility of writing teaching programs, all manner of ideas present themselves, but it should not be forgotten that the aim is to teach, not just amuse. The ground rules were all thoroughly explored long before the advent of home computers.

It would be as well to visit a library and examine the literature on the subject of Programmed Learning, which was written when teaching machines were in vogue. There is more to it than meets the eye.

For instance, have you ever considered the question of whether minimal-step linear programs ought not to have parallel sequences with different step-sizes commensurate with the degree of understanding as measured by the percentage of correct responses?

Indeed, is it practical to introduce such parallel sequences in branching programs with multiple choice questions?

And if the inability to deal correctly with questions indicates the need to cover some previous ground again, how is one to loop back without causing discouragement by boring repetition?

The computer must be seen as an aid to imparting knowledge or skills, a means to an end, not a substitute for parents. It will only do this by losing the image of being a mathematical engine.

We should teach, not educate.

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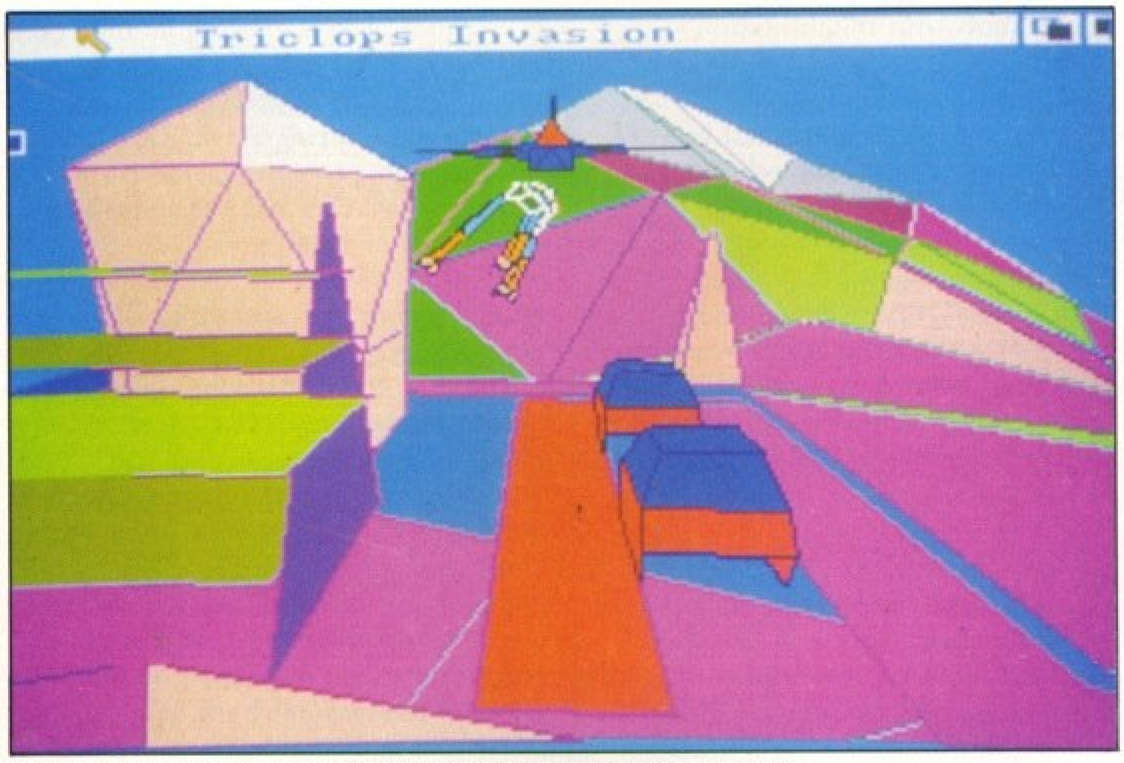
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Triclops Invasion, the star of Disc 20 from Capricorn Computers

Capricorn to old Oz

All aboard for another tour of the public domain with Fat Angus

HOW do you explain to a yuppie that you are not a train spotter? The mere mention of PD software is rewarded with the look we all save for the bloke collecting numbers on York station. Cheap camera, clothes fashionable in 1972, the trusty thermos and 14 diaries full of the exploits of 47014, a Brush Type 4 so I'm told.

What is it that equates the train spotter with the PD collector? Nothing at all. It's so easy to dump an entire subject because of a misconception.

I know a train spotter from York is probably getting very annoyed reading this, but I don't care. It's his parents' fault. They should have made him play rugby and get drunk when he was younger. They should have made a man out of him. Instead he's 35 and collecting diesel fumes and double pneumonia.

His name's Ralph. But that's his parents' fault, too.

I don't know whether it runs in the family but his younger brother Eric, a civil servant, has just bought a second-hand BBC Micro to help him learn about the computers at work. Cousin Dave who comes for tea on alternate Saturdays, is spoiling for a row this week because he's got an Amiga.

Coming up from Church Fenton on the train, a chap who was "something in CAD" took him to task for his interest in PD and referred to him as "another train spotter" who should save up his money and buy a proper computer like an Apple Mac.

What Dave does to Ralph will no doubt grace the pages of the Sunday Sport or the guest list of the Magistrates Court in Solihull – a town where I chanced upon Rob Massey of Capricorn Computers. Over 50 discs in the collection and still growing.

"Our PD library started 18 months ago as a service to our customers, some of whom were worried about viruses", Massey told me. "We got inquiries from further afield and started mailing discs".

As the collection grew, so did the clientele. Now Capricorn has blossomed into a fully fledged PD outfit.

There are advantages to being small, as I found out when I wanted one-to-one advice. Imagine ringing a multi-national software emporium to request the best way to twidge a utility.

"Thank you sir, I'll put you on hold".

WHILE we're waiting for a reply from *them*, I've time to look at these Capricorn discs. Eany-meanie-minie-mo. Ho hum. Discs 20, 22 and 26.

Disc 20 is a fairly predictable collection of Amiga PD games. Gravity War, Cycles, Egyptian Run, Invaders, Tic-Tac-Toe and Adventure. Nothing earth shattering, but a reasonable wadge of games for your pennies.

Discs 22 and 26 are utilities. I can see you're setting the alarm clock so I'll keep it short. Aside from the normal yawnish crunchers and text readers, there are some nice snippets like a drive spinner to make disc cleaners work, an IFF picture to icon converter, a pointer clock device, or a pointer device clock, or something, and many, many more.

Flicking through Capricorn's list, the company is up to date with versions of programs, and as well as the normal PD collection it has some interesting extras in its homegrown library.

It's worth highlighting an advantage of a smaller PD library. Massey was well enough in tune with his 50 or so discs that he could locate what I ►

wanted without guessing or consulting huge lists or databases.

Talking of huge lists and databases, or even not talking about them, is nothing whatsoever to do with the report received this week from Down Under. We're under attack from the mutant Grundies. Closely following the antipodean soap comes the first batch of Australian shareware. Nell Mangel, eat yer heart out.

Much of this is crude conversion work from 8 bit machines. The Henry Ramsay Lawnmower Simulator is an example. Sound is a monotonous sampled moped. The idea is to run around the neighbourhood avoiding the cats and postmen while trying to



Steve Tibbett, PD hero and X-man extraordinaire

mow as many lawns as possible.

From the as yet unheard of Darleen Brothers, HRLS was written from a totally unoriginal idea and, while very quick on an Amiga, has none of the machine's graphic capabilities exploited.

THE convict beginnings of Australia are remembered in another simulation which is slightly reminiscent of the Colditz glider, H-Block Escape.

The game is split into two parts. In a horizontally scrolling maze game you have to gather together six fellow prisoners, attack a warder, get the keys, hold the governor to ransom and finally lead the convicts on to the roof.

Part two is an isometric 3D plan of the roof. You have to collect the necessary parts to make a working hang glider. This accomplished, you fly off into the sunset. Or you would if you could find the bits.

I plummeted several times before I realised it was supposed to do that.

Aimed at the delinquent sub-culture around Ayres Rock, H-Block Escape was written by Paul Read, Erica Davidson and Beatrice Smith, all part of the Wentworth rehabilitation project.

Back on this side of the world, but still very sneaky, is a brilliant but less than honest general method of hyping PD. It labours under the excuse of a disclaimer: "This disc contains language or graphics that may offend". Well it may have done in 1948, but with naked ladies adorning the tabloid press daily and expletives having reached Blue Peter, I don't think we're going to be reaching for the heart pills.

NO, more likely we'll reach for the cheque book in the hope that this time it may be something stunning and not just another deck of digitised derrieres or an Anglo-Saxon nastie with a Dutch accent.

I took a random sample of 12 of these so called "buy at your own risk" discs from various sources, and this is what I found: 32 four-letter words about propagation, three four-letter words about normal bodily functions, seven digitised naughty words, five digitised pictures of protruding protruberences and three naughty parts.

I subscribe to the idea of protecting minors from the degredation and squalid thoughts we adults have and enjoy, but if I find the disclaimer used as a cunning way to advertise PD software, offender beware.

And that includes the nasty little man at Birmingham's New Street Station. After an uncomfortable bus ride from Solihull the last thing I wanted was a Left-wing Brummie trying to get a subscription for some nasty radical Trotskyist cause. If perchance his commune owns an Amiga and he's reading this: "You nasty little oik, I nearly missed my train and I hope the swelling lasts for months".

At least there was a bar on the train and I had time to inhale a Britvic or two as we sped southwards. At the end of platform two at Kings Cross I noticed a bunch of men crowded round a diesel. They were taking photos of a guy dressed from the seventies leaning on an engine bearing the number 47014. Whatever turns you on.

Across London by tube and south towards Portsmouth. On the outskirts of that sprawling naval town is Waterlooville, famous for absolutely nothing. After scanning reference books and gazetteers for a strange fact to latch on to, I had all but given up when I came to a small comment about neighbouring Havant, famous for the largest tampon factory in Europe. Does this make Waterlooville the next door neighbour to ...

Good taste and editorial discretion plucked away the rest of the above paragraph.

Softville PD in Waterlooville has 35 million different PD discs for the Amiga. At least it seems that way. A 40-page catalogue bristling with Softville, UGA, APDC, AMICUS, Fish, Panorama, FAUG, Slipped Disk, commercial software and a club that guarantees updates and catalogues make this a well organised outfit.

I tried the two Fairlight demo discs, a few games, Fish's latest, a UGA slideshow, sound utilities and Soft 102, which has a really alarming start.

Slideshow is a useful program.



A grisly example from the 21 pieces of artwork on the UGA Slideshow disc from SoftVille PD

Having recently seen a slideshow of digitised photos and video images, I am passing it on to an old college friend for a proper test drive on the lecture and seminar circuit.

The Fairlight discs left me with the harmless but annoying North Star virus in memory, but VirusX v3.2 flushed it out. Thanks, Tibbett.

Bugs abound lately, with the newest being the mutations of originally harmless viruses. There is a version of Byte Bandit around which rewards Alt-Amiga-Space-Amiga-Alt with an obscene message before doing the nasty on what's in memory. No doubt there will soon be a bug killer to beat it. If you know of one already, where did you get it?

And I hear of a disc called Hollandaise which claims to be an all purpose bug fettler from the Netherlands.

Informed sources say that it is in fact a bug installer, and comes from a ▶

group of students in Lancon de Provence. I'm told that it presents itself like VirusX and actually rids discs of boot-block viruses before leaving its own.

Wakefield-based 17 Bit Software claims to have the best value for money PD starter pack in the world. Send a fiver (including P&P) and you'll get a disc mag with demos, progs, music and words, a disc of useful utilities and three PD games, a disc of graphics, sound, animation and music. The offer includes club membership.

17 Bit always seems to have the best animations, but I thought I was having my leg pulled when I finally received the 1 meg trailer of the 1 meg version of the 2 meg mark 2 version of The Walker Demo.

Whatever version it is, the main feature will be good. Another *trailer* indeed. They'll be sending out popcorn and Kia-ora with it next. Or those dreadful hot dogs that look tasty on the screen but by the time you've made it to the foyer they look like a limp apology for a Canadian weanie.

In need of a good belly laugh *(To go with his good belly. Ed)* I remembered an earlyish disc from 17 Bit about loo paper, number 064 in the collection. It is not suitable for Mary Whitehouse or Lord Longford, but anyone with a broadish mind and an honest memory should find it funny. If you do find it offensive, tough. It's a nasty old world, isn't it.

A BIG prize for porkies to the salesman in a Glasgow computer shop who told a customer that the ST could do anything the Amiga could. Has anyone seen an ST version of the Wild Copper demos?

What was Ralph doing in Glasgow anyway? Ah, train spotting. I understand there are some wondrous beasties in Polmadie Motive Power Depot.

So as Ralph returns to York with ST and free "software" under arm, I must stop this month's SweetPD while I go off to chase the elusive gas freezer. Using a fridge and a freezer as supporting points for the table was a great idea. Trouble is, these appliances of sciences have nasty motors that can reset an Amiga at 10 paces with a spikey bit down the mains.

After buying a gas fridge, a freezer is the next target. The gas board agreed reluctantly to put another point next to the desk and all being well I should soon have a double smooth supply.

The microwave and the coffee machine don't cause problems, but I'm told that a deep fat fryer causes environmental hassles. And I promised I wouldn't mention the measures afoot to ...

WHERE IN THE WORLD?

Capricorn Computers, 35 Warwick Road, Olton, Solihull. (Tel 021-707 0381).

Softville PD Services, 55 Highfield Avenue, Waterlooville, PO7 7PY. (Tel 0705 40804).

17 Bit Software, PO Box 97, Wakefield, WF1 1XX. (Tel 0924 366982).

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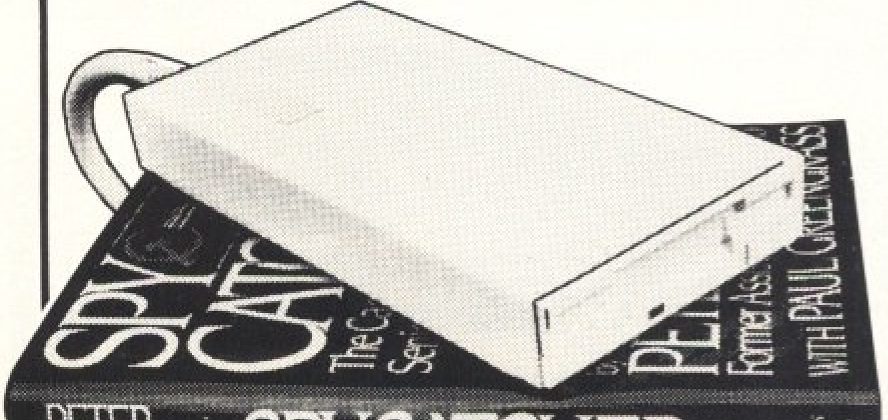
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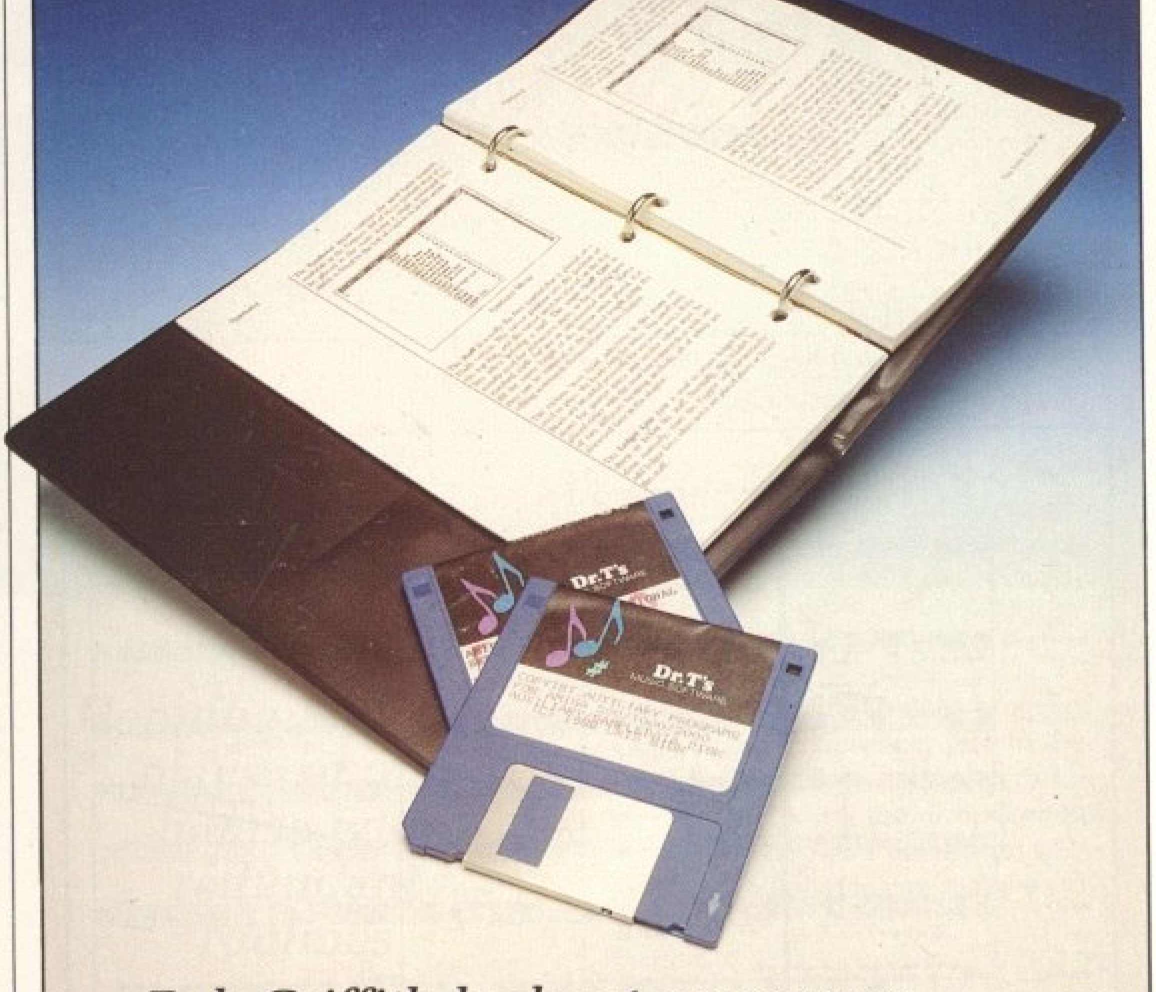
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Settling the score



Rob Griffith looks at a program which removes some perspiration from the toil of inspiration

JOYFUL anticipation overcame fear as I approached Copyist Professional. Having used Dr T's popular Keyboard Control Sequencer software I was braced for a program that was powerful but difficult to learn. And I expected the manual to be a confusing mess.

Happily, Copyist Professional is packed with features. Even more happily, this time Dr T has come up with a comprehensible manual and logical user interface.

This software allows Amiga users to create and print truly professional music scores which can be entered directly using the mouse and keyboard or transcribed from Midi sequencers. So you compose a tune at the keyboard and Copyist turns it into a score.

There's a great deal of flexibility in the way scores can be formatted. A small edit cursor box is positioned within the Score Editor window. A musical symbol is selected for entry by mouse or a set of keystrokes. Some of the more complex symbols can only be entered from the keyboard.

After the edit cursor is positioned, symbols can be placed using the three Symbol menus. Symbols1 contains the most common ones, including note heads, accidental signs and dynamic markers, as well as the stave. Symbols2 includes clefs, time signatures and ornaments. The Symbols3 menu offers rests and guitar tablature signs. Symbols that can be entered only by key commands include bar lines, dots, stems and user-defined symbols.

PHRASE symbols such as ties or trills that extend over several notes are entered by positioning the cursor at the starting point of the symbol and pressing a key, then positioning the cursor at the end point and pressing a key again. Slurs need four points to be specified by cursor.

Commands used for manipulating groups of notes include cutting, pasting, erasing and moving. A range of notes is chosen by dragging a square around it with the mouse. When the mouse button is released a Range Edit requester opens.

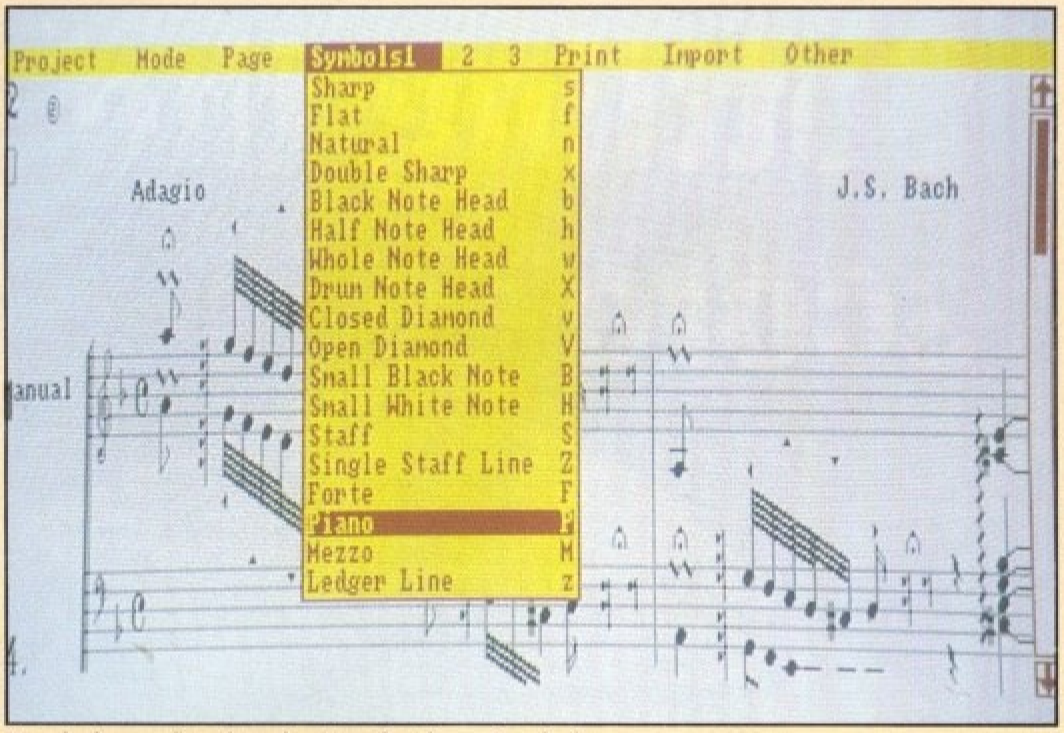
You select the type of edit and which symbols the edit will apply to – all text, rests, ledger lines, upper stems, lower stems, staves or bar lines. These commands can all be executed with keystrokes.

As well as the standard editing mode, there are three others for entering data on the screen: Text mode for entering text, keyboard mode to enter note heads at specific pitches and Join mode to add stems and beams to sets of notes.

A simple font editor allows the user to create 10 user-defined symbols. This editor consists of three windows showing the screen, dot matrix and laser versions of the symbol; 10 buttons at the bottom of the screen are used to pick which symbol is being edited. Symbols are edited by toggling pixels on and off with the mouse.

COPYIST Professional lets you take long sequences of keystrokes and save them as macros. So if you need to use the same sequence of commands over and over this vastly simplifies the process.

After a complete score is written you can easily extract individual parts. Suppose you want to extract the part that will be played by the trumpet. Just click on the Parts Program icon from the Workbench. This opens the Parts window, where you specify which score file you are ►



Symbols can be placed using the three Symbol menus



Members of the orchestra can have customised versions of the score

extracting the parts from and the name of the file you are saving to.

In this window you also enter how many parts will be created, the number of staves per page and which staves from the source score go to which destination part.

It is possible to merge several staves in the original score into one in the extracted part. The extracted parts can be transposed. This is useful for instruments which are not in concert pitch – such as an E-flat saxophone.

When scores and parts are completed they can be printed as draft quality scores for quick reference or as manuscript quality scores for performance or publication. Copyist Professional supports Amiga drivers for dot matrix printers as well as Hewlett-Packard Deskjet or Laserjet for producing high quality output.

CONVERTING sequence files into scores is a relatively painless process. Copyist Professional will convert Smus, Midi and tracks, then the sequence files are converted to stream files that the Copyist can read.

Using the Import menu, you select the format of your sequence file and enter the names of the source and stream files. The Conversion Options window opens allowing you to select the number of staves for each track – one or two – the key signature, time signature, note value per beat, bars per line, staves per page and steps per beat. Once these parameters have been set you begin the conversion by clicking on OK.

Now the stream file must be read into a score. A new score should be opened from the Project menu. After you specify the stream file the Transcription Options window appears for you to specify parameters like bars per line, staves per page, any inclusion of rests, page numbers, bar numbers, stems, beams and so on.

Drum parts can be transcribed, but it is important to assign each drum to the proper note.

UNFORTUNATELY Copyist Professional's synth program module is not yet working. It is supposed to convert scores into Midi format or KCS .all files. Dr T promises to send Copyist owners this module as well as a backup of the program as soon as some bugs are ironed out. Converting a score into a sequence will be the reverse of converting a sequence into a score.

Copyist is not a tool for the casual hobbyist. There is always a trade off between power and ease of use, and this powerful program takes some time to learn.

For professional musicians as well as serious amateurs, Copyist fills a vital need among the growing number of music programs for the Amiga.

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Dr T's Copyist Professional
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EASE OF USE..........
Offers word processing flexibility to composers and makes splitting up parts a simple task.

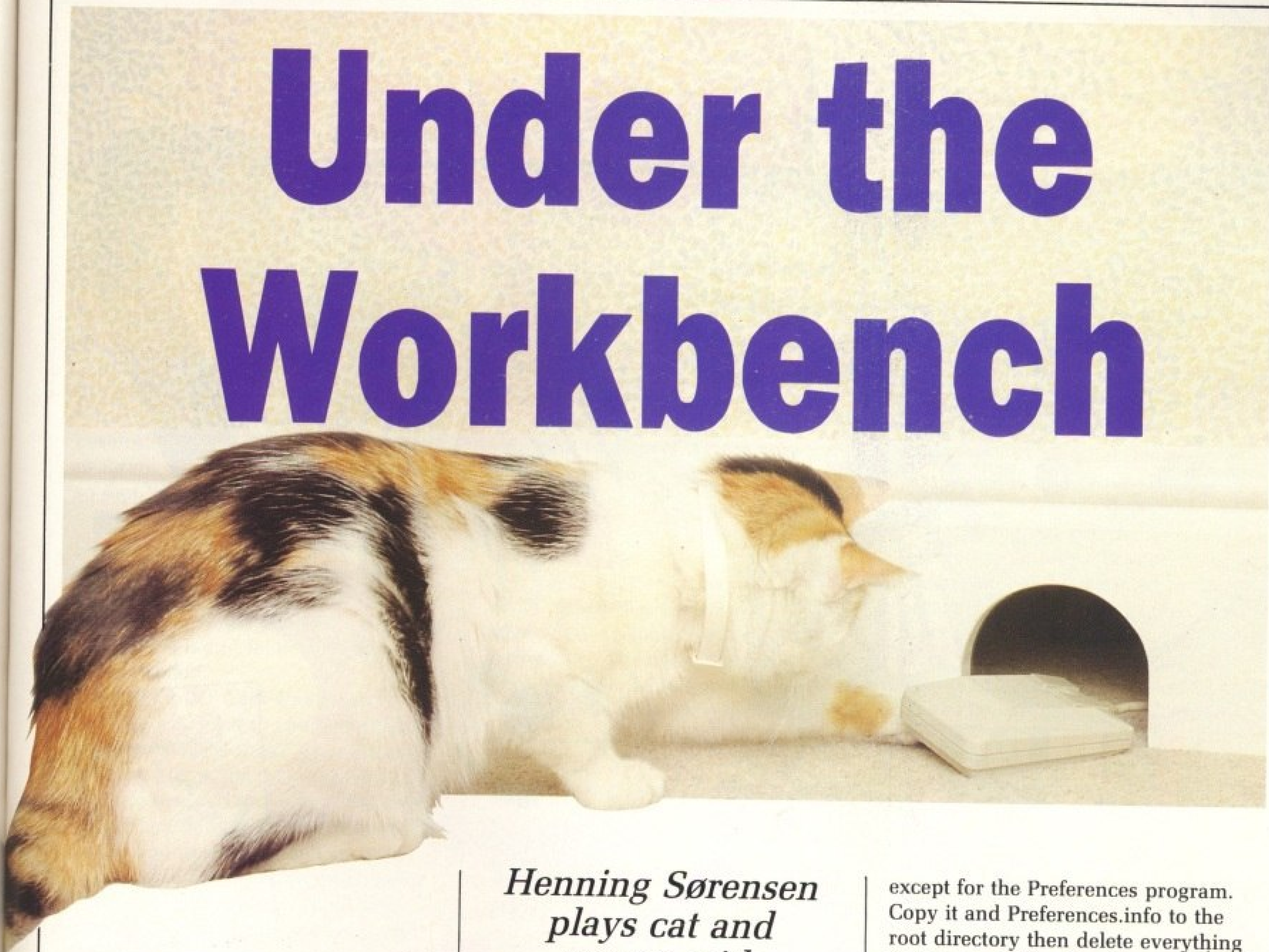
SPEED......................
Much quicker than transcribing by hand. Takes a while to learn.

VALUE ....
Needs a lot of use to justify the price.

OVERALL 74%

A competent program which should satisfy an ever growing market.

Under the Workbench



Henning Sørensen plays cat and mouse with redundant routines

WE'VE all been through it, wandering about directories late at night, trying to cram an extra byte out of the Workbench disc to fit in the latest thing in editors, virus killers or directory utilities.

Here is the answer to all your prayers. How to make a personalised Workbench disc on to which you can cram more programs to make life easier. You will want to use this in your daily work to avoid a lot of the disc jockeying normally associated with the Amiga.

OK. Make a copy of your Workbench disc and put the original well out of harm's way. My fridge is such a place. Make all the suggested alterations in this article on the duplicate you have just created. When you delete or copy something remember to delete or copy the file with the same name plus the extension .info. Without these there will be no icons to click on.

You are, of course, familiar with the Trashcan directory, and since you'll probably need to use this with the WorkBench again, it would be daft to delete it.

Moving on, you can see there are a lot of files in the C directory. These are the AmigaDos commands which are loaded when required. I will not recommend you delete many since you may well need them, but likely candidates are Edit and ED, two crude text editors infinitely inferior to MicroEmacs on the Extras disc.

If you haven't got a 5.25in disc drive for your Amiga, and most of us haven't, you can safely delete DiskChange. SetClock is a likely candidate to go if you haven't got a battery backed-up clock, and BindDrivers isn't much use if you haven't got special extra hardware – the A501 ram upgrade does not fall into this category. Apart from that, most of these files are good to have.

The Prefs directory is pretty useless except for the Preferences program. Copy it and Preferences.info to the root directory then delete everything in here, including the directory itself. It will not give you much, but a couple of kilobytes can make a difference.

SOME files in the System directory may be of no use to you, depending on your machine configuration. If you haven't any expansion memory, in other words a vanilla A500 with 512k, delete FastMemFirst, MergeMem and NoFastMem.

NoFastMem "removes" extra memory, sometimes a necessary step to get old programs to run. MergeMem can make two memory boards appear as one to the machine, and FastMemFirst makes sure the "fast" memory on the expansion port gets used before the slower standard and A501 memory.

If you *have* extra memory, but only one board, you can delete FastMemFirst and MergeMem. If you have several memory boards you're out of luck, nothing goes – except

▶



Fun School 2 for Over-8s contains:

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- **Packing:** Discover tesselating shapes
- **Caterpillar:** Word building challenge
- **Number jump:** Have fun practising tables

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- **Pick a Letter:** Word building made easy
- **Spell a Word:** Enjoy naming the pictures
- **Teddy Bears Picnic:** Move around a maze

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Also: Atari ST, Amiga, PC £19.95 (PC version released in June)

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BBC Micro/Electron	2239		2242		2245	
BBC B+/Master 40T		2240		2243		2249
BBC B+/Master 80T		2241		2244		2250
Atari ST		9192		9193		9194
Amiga		9842		9843		9844
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your money for a hard disc to store all the extra files.

Still in the System directory, if you never use the minus sign and are pretty satisfied with the standard keyboard layout, you could delete Setmap, which alters the keyboard layout. You can always get a fresh one from the fridge.

Don't be surprised if you see a file in your System directory called CLI.noinfo. This is because you have deselected CLI in the Preferences program. It's the CLI.info file renamed so that Workbench can't find it.

There are a few extra bytes to be claimed in the L directory, which stands for library, not to be confused with the Libs directory which stands for libraries. Some parts of AmigaDos are kept in L and loaded off disc when needed.

Do not touch Disk-Validator because it is used to check the discs when you insert them. Leave Ram-Handler alone, it's the program for the ram disc. Likewise Port-Handler, which handles the serial and parallel ports. You probably don't want to delete Shell-Seg or Newcon-Handler without which the new Shell and command line editing will not work.

The rest are not so commonly used. Pipe-Handler allows the output of one program can be made the input of another. In theory it can be useful but I have never had a use for it myself. I doubt if you will, delete that one.

Speak-Handler can be cute for five minutes, but nerve wrecking until doomsday. It lets your Amiga read text with the built-in speech synthesiser. It sounds like Muhammed Ali on a bad day, with a cold to match his ego and his head in a bucket. You may have guessed I think the space could be put to better use.

FastFileSystem is great – the best thing to hit the Amiga since Atari refused to buy it – but only if you have a hard disc, otherwise you have no use for it.

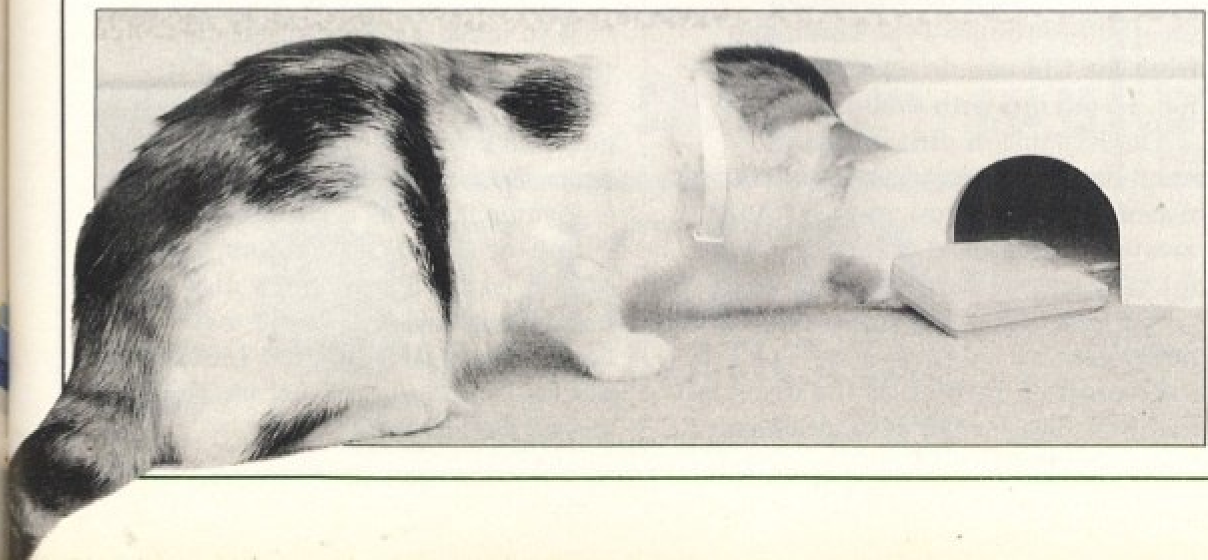
Aux-Handler has the same problem as Pipe-Handler, it can be useful, but you will probably never need it. It allows you to communicate with the serial port directly from CLI. This can be great fun. I controlled a friend's Amiga over the phone, starting all sort of programs as fast as I could, while he manically closed them down. But unless you have a rusty IBM the scrapyard didn't want and you want to control it from your Amiga, you know what to do.

DEVS contains three sub-directories. Devs/keymaps is where Setmap looks for keyboard layout files. The trick is only to keep those you use, which probably means GB to you and me. Devs/printers is where AmigaDos looks for the printer driver you selected in Preferences. Again, the trick is to keep only the printer drivers you use.

> *You could delete Setmap, you can always get a fresh one from the fridge*

Don't concern yourself with Devs/clipboards. This directory is used by the Amiga to store clips – what you make when you "cut" in your text editor or word processor. It is totally transparent to you.

The file called Mountlist in the Devs directory is pretty special. Have a look at it with your favourite text editor. It is used by the system to figure out exactly what you mean when you type, for example, MOUNT RAD:. The system looks for RAD: in the Mountlist and follows the instructions it finds there. To be more specific goes beyond the scope of this article, let's just say you leave it alone.



System-Configuration is just as essential. This file is written whenever you click on Save in Preferences. It contains information on how you like your Amiga to look and behave. Don't touch.

Clipboard.Device is used by many programs, especially text editors, word processors and spreadsheets, so this one stays. Parallel.Device, Serial.Device and Printer.Device are essential, at least if you want to send anything to your printer.

If you never use a printer, a modem or anything else connected to the parallel or serial ports, you can delete these files, but it is not recommended. What will happen when your IBM friends bring their lasers over? Lots of laughs because the "stupid Amiga" can't print.

Ramdrive.Device is used by RAD:, the recoverable ram disc. A great little number, so I suggest you leave it in. The last of the bunch, Narrator.Device, is a bit tricky. It is used whenever you want your Amiga to speak.

If you are anything like me that is as seldom as possible, in which case delete it. But if you left Speak-Handler in and intend to use it, it is necessary to keep Narrator.Device too. Make it a low priority deletion – only remove it if you are desperate for bytes.

The S directory is important because AmigaDos searches here for execute files – small simple programs designed to carry out small simple tasks. What the Amiga does when you put a disc in the internal disc drive and reboot is to run the execute file Startup-Sequence. So naturally, this stays.

CLI-Startup is executed when you double click on the CLI icon and Shell-Startup is executed when you double click on the Shell icon. Both of these should stay. Dcat, Pcd and Spat are examples of execute files, none of which is very useful. Have a look, learn and keep them if you like them.

Startup-Sequence.HD is a suggested startup file for hard disc users and is a candidate for deletion since it is *very* stupid. I definitely wouldn't use it even if I had a hard disc. StartupII is called by Startup-Sequence; leave it

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in here unless you change the Startup-Sequence.

No prize for guessing what's in the Fonts directory. It's where AmigaDos hides different character sets. Each one has a .font file holding vital information and a subdirectory where the actual fonts are stored.

The numbers in the subdirectories are the size of the fonts. So you can see that Ruby comes in three sizes: 8, 12 and 15. There are more fonts on the Extras disc – with all the space you're making, you can soon put some of them on your work disc.

As mentioned earlier, Libs means libraries. Files here are collections of routines which can be used by any program. They are loaded from disc when needed. It would be stupid to delete anything in here because you never know when a program might need one of these libraries. Hands off, except for Translator.Library, which has to do with speech. It translates the Queen's English to phonemes, the basic sounds of the language.

As you may have noticed by now, I hate computer speech, but on the other hand some programs may not run if they can't find this library. As with Narrator.Device, I suggest you make it a low priority deletion. If you delete Narrator.Device there is no point in keeping Translator.Library.

Empty is, erm, quite empty. Except for a file which is necessary for Workbench to figure out how to handle directories, or drawers as they are known in WorkBench jargon. It's only use is to give you a chance to make a new drawer from Workbench by dragging it into another window. This is reason enough to let it through the eye of the needle. It's not many bytes anyway.

BOY are we going to have a ball in Utilities. Watch out or the Delete command may overheat. This is where the bytes come floating in.

Let's start with Calculator. Hardly the best of its kind and certainly inferior to my HP-15C an arm's reach away. So out it goes. Clock is quite cute, but I have one just like it on my arm and one beside the Amiga, so what's the use? The same goes for ClockPtr.

CMD is another earful of Babel fish, it is one of those programs you *may* have a use for. This one redirects everything sent to the parallel or serial port to a file – useful when you want to print something but haven't got a printer.

Just print as normal, but to the file, chuck the disc to your friend with the HP LaserJet II and let him print it out. If you occasionally want to print to a printer other than your own, you can use this utility. If that is as remote a chance as going to Betelguese 5 for the weekend, you can delete CMD.

GraphicDump is a handy utility and I suggest you leave it in. NotePad on the other hand is as far removed from a decent word processor as the Amiga from the ZX81. If it is notes you want to write, what good are fancy fonts and colours? No, in my opinion a good text editor is much better for the job. Besides, NotePad has crashed on me so many times I would be a millionaire had I used the lost time to make needles and pins. Out.

> *Clock is quite cute, but I have one like it on my wrist*

Say. Well you know my opinion on computer speech. Say no more.

InstallPrinter is an execute file designed to copy the correct driver for your printer from the Extras disc to the Workbench disc. Assuming this has been done, there is no need to keep the execute file.

The More program is good for viewing text files and should be left on the disc unless you have one of the superior public domain efforts. Some of them can send files from disc to printer, which brings us to PrintFiles, which does just that. Overkill. A simple Type command from the CLI can do exactly the same job. In the bin with that one.

The Expansion directory is as empty as Empty but hasn't got a good reason for us to show mercy. Chuck it away. It's only used to hold software for very special hardware add-ons, which most of us haven't got and will never get.

The rest of the files on the disc are the .info files for the directories you can see as drawers on the Workbench. Don't touch them, nor the Shell.

A word of warning. If you delete a file from your WorkBench disc which is used by Startup-Sequence, your Amiga will not boot up properly. This doesn't mean you shouldn't delete the files, but rather that you should edit your Startup-Sequence. The commands in question are BindDrivers, which is there for hard discs and similar peripherals, SetClock, which reads the time from the battery backed-up sundial, and FastMemFirst which gives any external ram priority over internal chip ram.

You could encounter a similar problem if you delete Aux-Handler, Pipe-Handler or Speak-Handler. Edit the StartupII execute file and remove the appropriate Mount commands. Nothing is easier, and your Amiga will boot faster because of it.

YOU may think we haven't got any more tricks to pull, but we have an ace up our collective sleeve. Get hold of the PD program Crunch2. You can find it on TBAG Disc #23. A public domain distributor like Purple PD should have it. Crunch2 can reduce the size of an executable file, a program you run by typing its name.

The reduction varies a great deal depending on the type of program, but generally speaking Crunch2 works best with executables between 15k and 60k long. Anything smaller won't give much reduction, with anything larger the wait after the program has loaded – while it is uncrunching itself – gets to be annoying.

I have used it on a number of the files on my Workbench disc. On Preferences I achieved a 20k reduction.

I used the tips I have given you here to make a personalised disc, squeezing an extra 250k out of it without sacrificing usability. This gave me room for some utilities to make life with Amiga much more enjoyable, such as a virus killer, a couple of superb text editors, an MSdos transfer program, a disc cache program, some stuff of my own devising and several other bits and pieces. You could do that too, I have shown you how.

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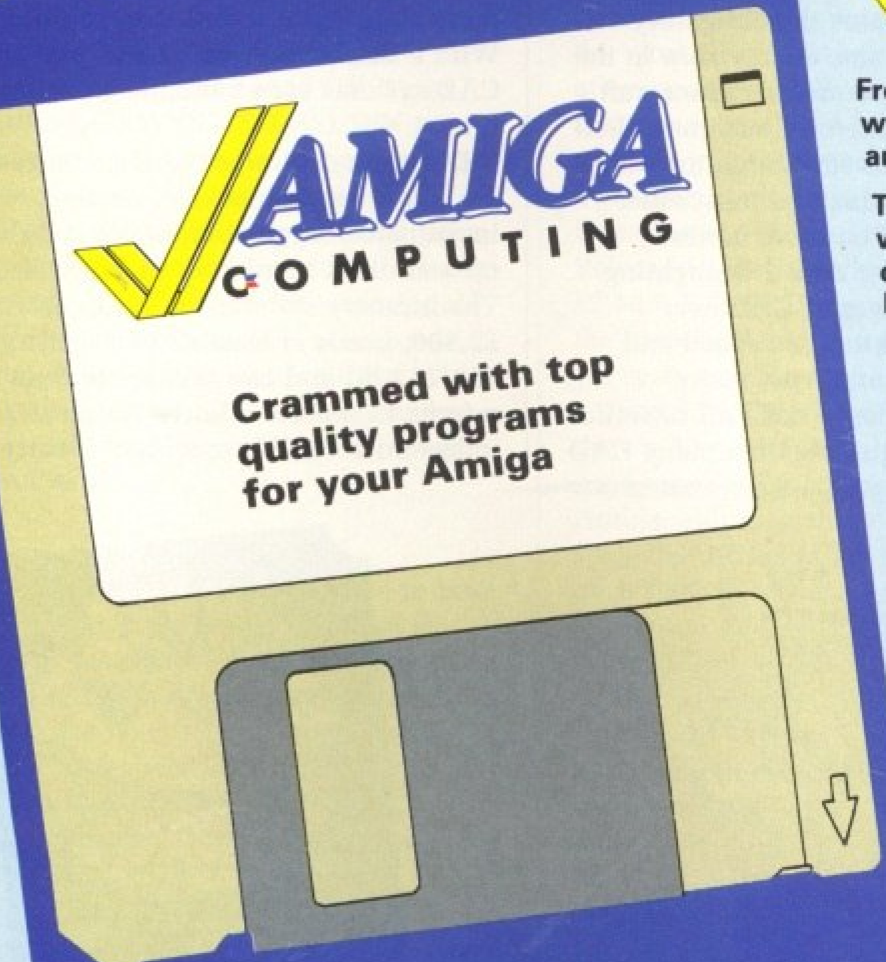
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From next month every issue of *Amiga Computing* will include a 3.5in disc packed with entertaining and useful programs.

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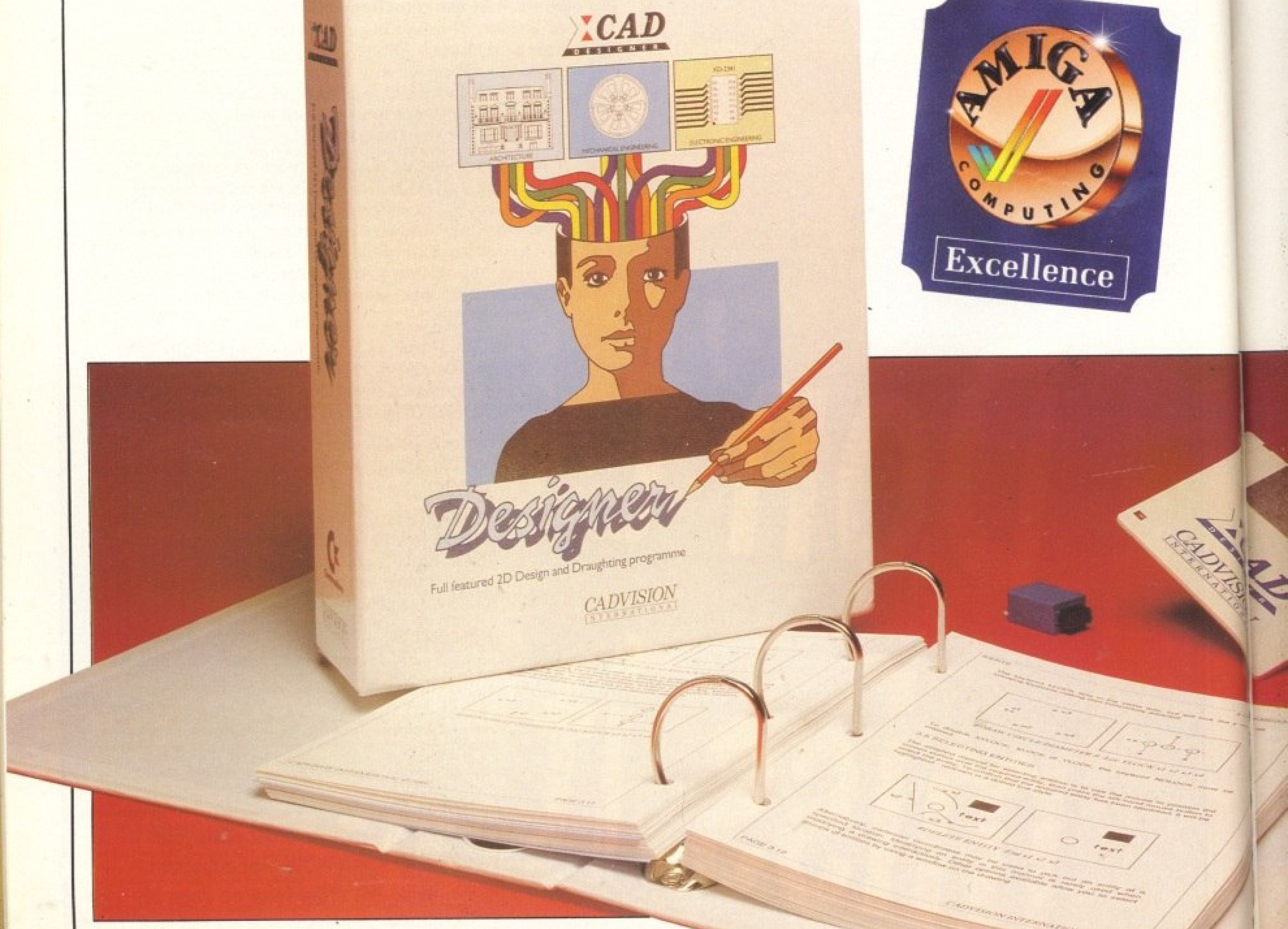
There's a terrific

Stewart C. Russell discovers that Cadvision's new designer software is a blueprint for success

THE influence of CAD on the computer world is hard to miss, the vector graphics so common in arcade games plus the obligatory rotating wireframe enemy ship in the scanners of some naffola spacecraft epic are the more obvious ones. CAD generally stands for Computer Aided Design, but in this and most other cases it should be more honestly called Computer Aided Draughting.

The advantages of CAD over manual draughting are speed and ease of alteration. True, many draughtsmen could dash off beautiful drawings far quicker than many CAD users, but if asked to alter a drawing they may have to redo the whole thing. CAD users just reload the file, mess about with it and then replot it. With a skilled user and a fast plotter, CAD systems save valuable working time.

Unfortunately most CAD packages are hopelessly expensive, need an inordinately large computer to work on and don't break any speed records. The industry standard system costs £2,500, needs at least £2,000 worth of 286/287 PC and can take more than a minute to redraw a fairly simple 2D image on a 10MHz machine. Clearly



draught in here

there is a market for a cheap, slightly simplified CAD system that doesn't need an expensive machine on which to run.

Enter X-CAD Designer from Cadvision International. All it can produce is ANSI/ISO/BSI/DIN two-dimensional plots, with no capability for 3D work. Three-dimensional CAD is great for visualising difficult parts or layouts, but is rarely used for day to day drawings. Two-dimensional CAD works, needs less calculation, and is understandable to those who need to know. X-CAD Designer has two main selling points – its speed and its price.

COMPANIES always like to brag about how their product is much faster than the one everyone else uses. Cadvision claims that its package zooms and redraws at six times the speed of Autodesk's AutoCAD running on a very expensive PC. This time the numbers are about right.

Not ever having timed both packages – many reviewers are wont to place enormous credence on piles of numbers – I'd say that X-CAD's zoom and redraw won't ever have you drumming your fingers. AutoCAD undoubtedly will. It definitely feels six times faster, so Cadvision isn't telling porky-pies.

It's strange, but if someone produces a new computer product, the workalikes that appear soon afterwards generally cost about the same, maybe a little less. There's a lot of work in a CAD package, so the awesome lumbering, yet brain-flatteningly powerful AutoCAD Release 10 very nearly justifies its £2,500. X-CAD Designer has most of the useful 2D features of AutoCAD, yet costs one short of a hundred.

For your £99 you get the program disc, a 30-page tutorial and a 100-page manual. You'll need a 1 meg Amiga, although there's plenty of space left for complex drawings – over 300k in med-res mode.

Owning two drives isn't really essential but, as ever, it'll cut down on disc swapping. A steady monitor *is* essential. A 1084S is OK by me, although the program can run in interlace mode where a long persistence display would be beautiful. Kind of defeats the "People's CAD" ideal, but you can always dream.

As with every CAD system, the emphasis is on accuracy rather than prettiness. Where else could you produce dimensions accurate to one millionth of a metre?

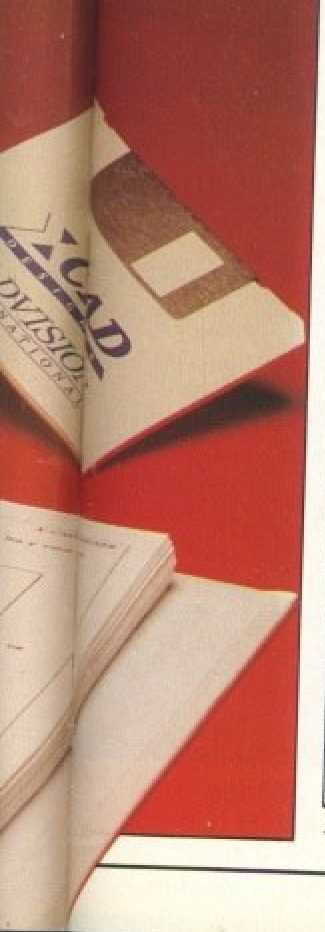
It is in the display area that X-CAD Designer has its one minor fault. Using an area about two-thirds of a 640 x 256 PAL screen doesn't really give a high enough resolution to make out the fine details on a drawing.

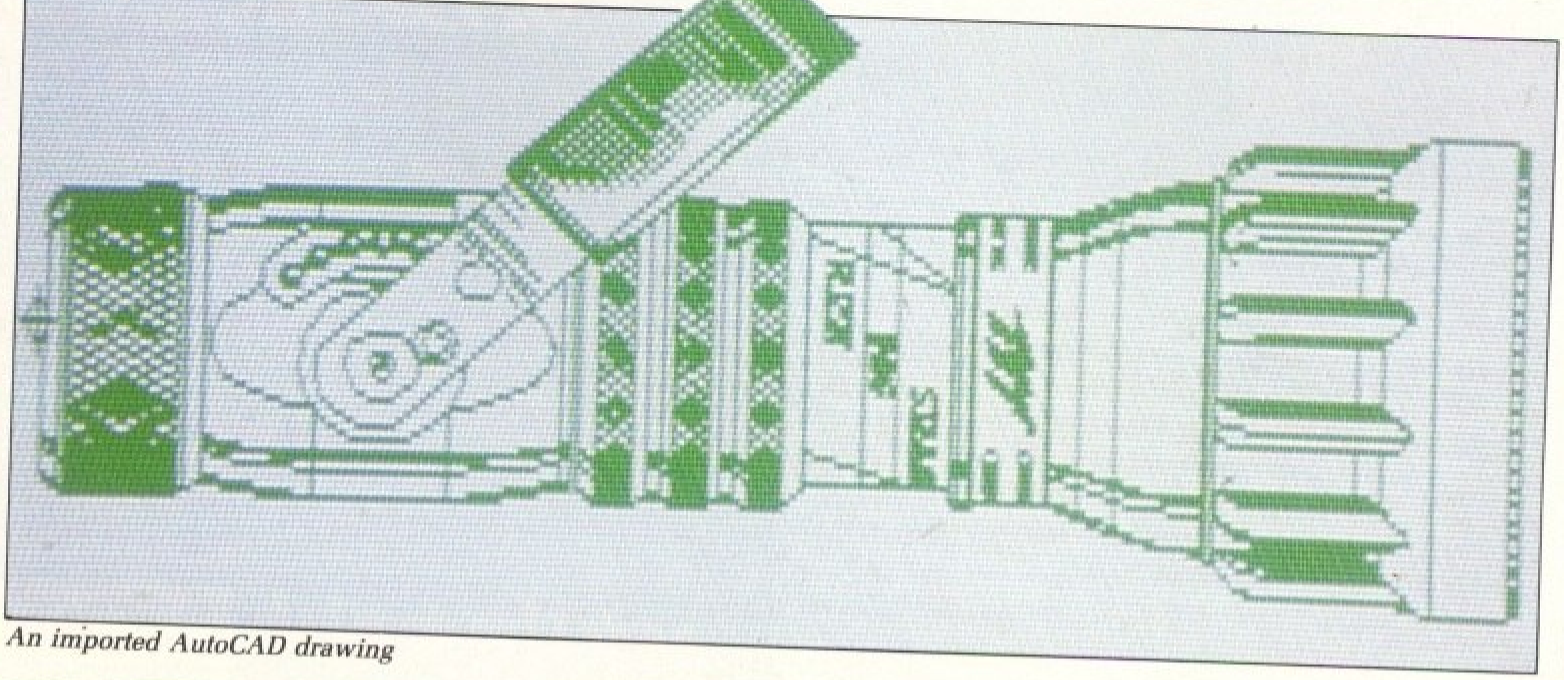
True, you can always zoom in and scroll around the drawing at lightning speed, or you could use interlace if you're into headaches. It's just that on a display of an A3 page, most text comes out as a slightly furry horizontal line.

The menu system used is a rather clever application of Intuition. Instead of providing linear pull-down menus with lower level menus appearing alongside, X-CAD Designer puts all the options on the screen as a kind of tree. Starting from the left hand side, selecting an option highlights the available options on the lower menu level, further to the right.

OCCASIONALLY numerical input is needed, which can be done with the mouse using the keypad display. This menu technique could confuse people who are more used to other packages. At least the menus are quick to learn and not cryptic, unlike some of AutoCAD's.

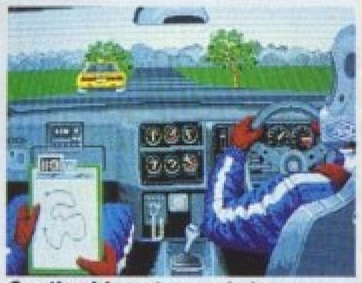
If you still can't abide mice, there's an Expert keyboard mode where complex commands can be built up ►



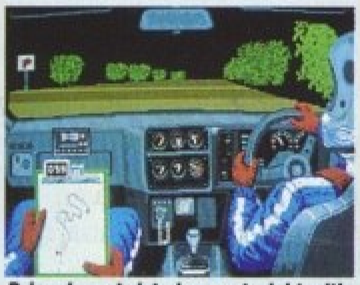


An imported AutoCAD drawing

BREAK OUT OF THE OFFICE ...AND ON TO THE TRACK



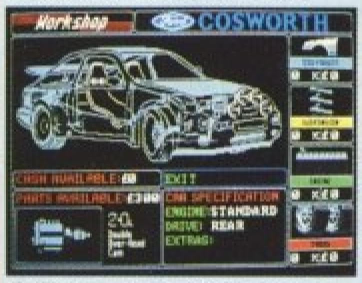
See the driver steer and change smoothly through each of the gears



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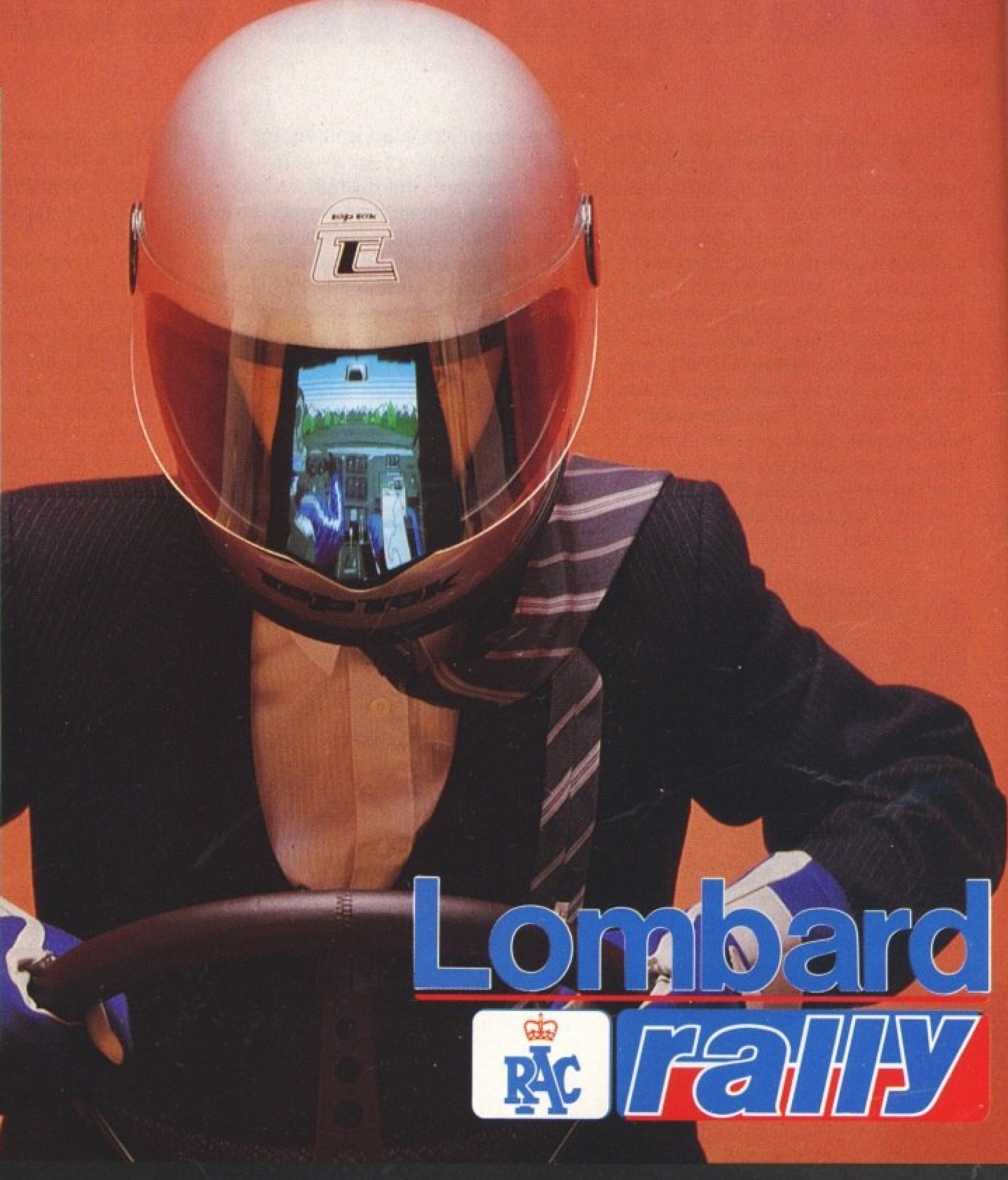


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Screenshots from Atari ST and PC versions



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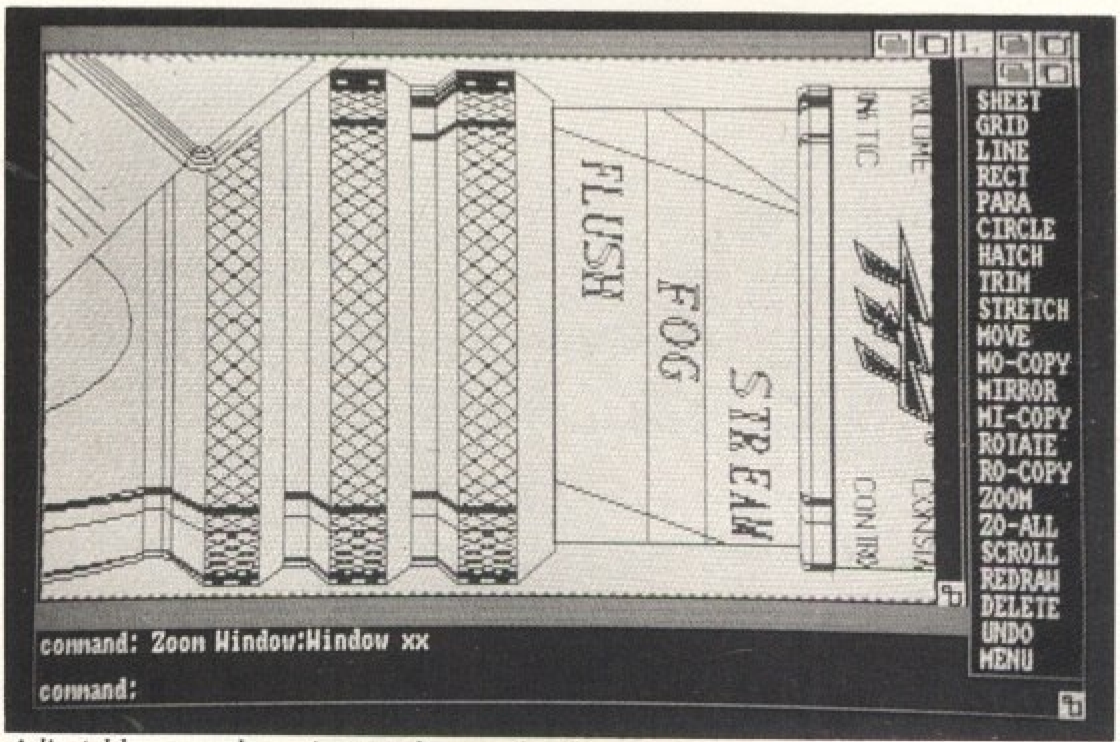
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'Overall 95%' – **Computer Gamesweek**



Adjustable zoom shows instant close-up detail

from two-letter abbreviations. It may not be strictly the spirit of Intuition, but it can be a lot quicker once you know the way around.

A really neat feature – and kosher Intuition, too – is the ability to use defined menu strips at the right hand side of the screen containing all the frequently used commands. Because you can store these on disc, you could use different menus at different stages in the design. Very crafty and very quick – you don't have to wade through about six menu levels every time you want to draw a rectangle.

Single line elements can be built up into more complex collections called entities. The plot thickens when you realise that single lines are also entities, just very simple ones. Entities can be rotated, moved and rescaled. The entity can be copied or replaced by the altered type.

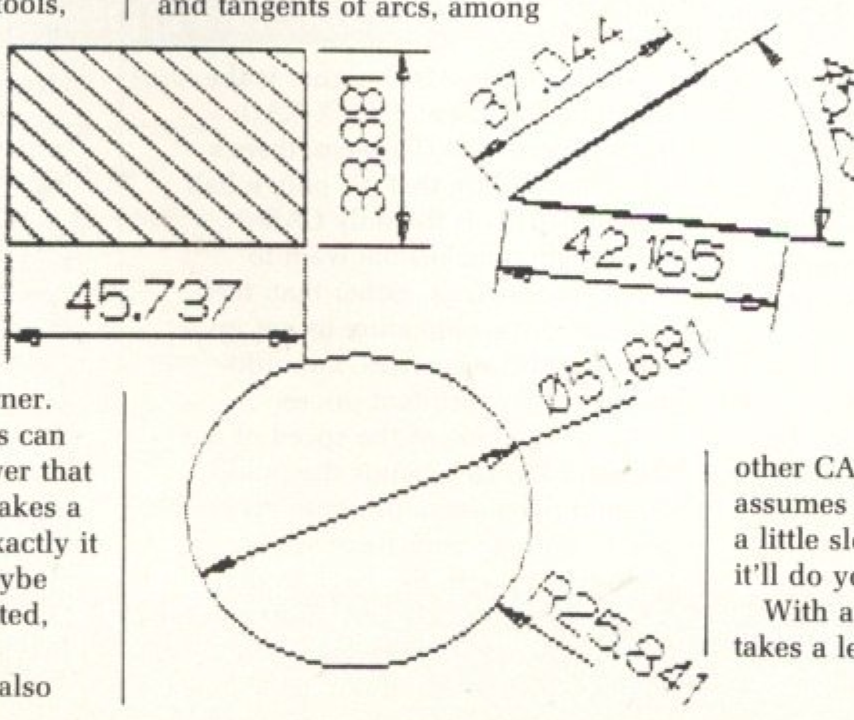
There are very few drawing tools, but each one is very powerful. Lines, rectangles, ellipses, circles and arcs are the main ones. More complex shapes can be built up by joining shapes and trimming the lines to fit.

Intersections can be filleted, that is, rounding of the sharp join to give a stronger and more pleasing corner. Sectioned – cut away – surfaces can be crosshatched to tell the viewer that the view is in cross-section. It takes a little time to work out where exactly it wants to put the hatching – maybe five seconds – but once calculated, redrawing is instant.

Moving and rotating entities also takes a few more seconds than you might expect, and it's here that maths co-processor support would be welcome to make every action truly instant.

The real slowcoach is Undoing a whole drawing after it has been accidentally on purpose deleted. It only redraws it at about the speed of AutoCAD, so AutoCAD users will feel a little nostalgia here. The Undo buffer is only one level deep but will hold an entire page without losing bits or resorting to temporary disc files.

SINCE you can create lines and other objects to micron accuracy, it would all be wasted if it isn't possible to place them accurately. There's a comprehensive menu bar which allows a point to be endpoints, midpoints and intersections of lines and the centre and tangents of arcs, among other things.



Placing can also be done using a coordinate grid, which can be set to any pitch. X-CAD Designer relies on its grid system rather than AutoCAD's crosshairs and coordinate display. If you're used to the latter, the former is initially irksome until you realise that grids can be rescaled almost instantly.

Entities can be placed on one of several layers, allowing easy editing of aspects of the drawing. For example this could be main detail on layer zero, dimensions on one, border and titlebox on two and text on layer three. Thus you can delete dimensions without disturbing the main detail.

X-CAD Designer allows linear, angular, diametric and radial dimensioning. Basically this involves selecting a point or line, selecting another point or line and then saying where you want the dimension text put.

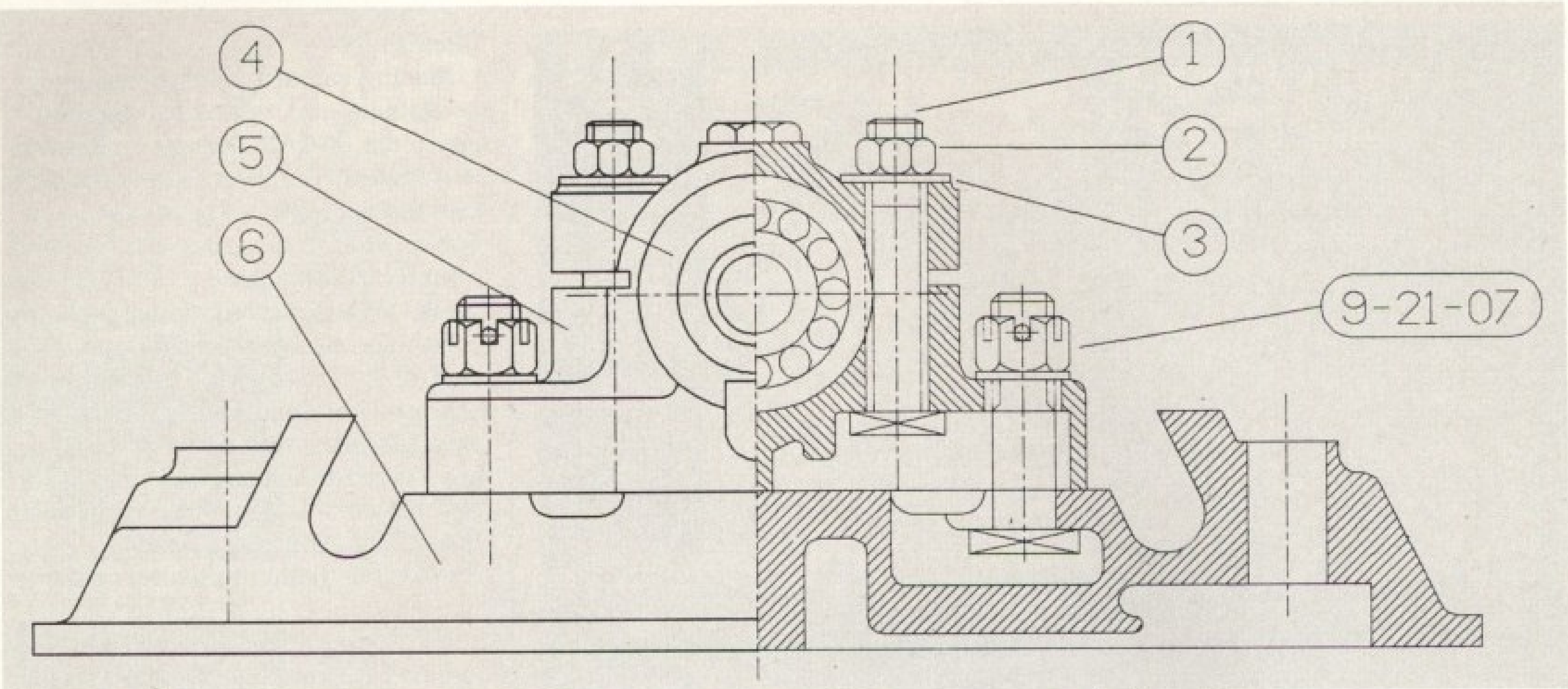
The package will do all the calculations for you, and will deal with parallel or chained dimension lines. And it'll do very neat little arrowheads, external or internal to the dimension line, dependent on the line length. Basic stuff, but lovely nonetheless. It's here that the ability to snap to any point is very useful.

All this loveliness would be useless if it wasn't possible to output your delightful drawing on to some kind of plotting device. X-CAD Designer supports HPGL, Hewlett Packard's Graphic Language, a simple plotter control language that most plotters can speak.

You can also output to an Epson printer or the graphic device you have defined with Preferences. The trouble with the last two is that they are raster devices and produce lumpy output, unlike the poetry-in-motion pen plotters. Output can also be to an IFF ILBM file.

Although X-CAD Designer is superficially easy to use, you need the tutorial, especially if you're more used to other CAD packages. The tutorial assumes nothing, so you may feel it's a little slow. Follow it to the letter and it'll do you a lot of good.

With a bit of luck the whole tutorial takes a leisurely morning and the ▶



X-CAD Designer will produce plotter or dot matrix hard copy. This sample was output to a 24 pin Epson LQ-500

◄

learning process sticks pretty well, unlike many tutorials.

Some of you may be wondering why there hasn't been any mention of how good the manual is, how thick it is or how large its coefficient of coffee permeability. The truth is, like the tutorial it wasn't quite finished. But take heart from the fact I managed to get everything to work correctly after a little trial and error plus one or two references to the provisional documentation.

I tested the Beta version, meaning that what was there, worked. Some of the more trivial bits were missing – like the scroll routine – but going on Cadvision's past record, the finished X-CAD Designer will be as good as the Amiga can handle.

An additional package is available, the DXF Read & Write module. This allows AutoCAD files to be imported and X-CAD Designer's XDR files to be converted to AutoCAD format. As there isn't to my knowledge an IFF CAD Entity format, and AutoCAD is the de facto industry standard, this is a good idea. It would be interesting to see if it would be quicker to import a file into X-CAD Designer, edit it, then export it, rather than use AutoCAD for the whole process.

CADVISION wants £149 for the DXF module, cheap at twice the price really. Let's hope this gives a little credibility to the darling Amiga in a PC-saturated industry. The funny thing is, although 99.5 per cent of the known universe uses PCs, nobody has a good word to say about them.

Adding a basic A3/A4 plotter to a twin drive, 1 meg A500 will give you a very workable CAD workstation. At current prices this will retail somewhere around £1,400 – a good £500 less than most CAD systems' monitors cost. It must be the most killer 2D CAD system on earth. It is fast, cheap, very small and pretty robust.

So then, who would buy this system? Schools and colleges not only have the cheapest technical drawing system around, but also have a computer that can be used by every other department. Small manufacturing and design concerns have a cheap way to improve presentation and increase productivity by decreasing the time spent slaving over a hot parallel motion.

It's even within the reach of poor, deprived engineering students who would never, ever contemplate using the system for games. Honest, Mr Bank Manager, sir.

Although X-CAD Designer is the little brother of the £399 X-CAD Professional 2D/3D system, there's never the feeling that it's only a half measure. This is the only CAD package that makes me want to produce drawings, rather than feel I'm under the obligation to put up with slothful responses, no multi-tasking and exorbitant prices.

As an example of the speed of the thing, in the 10 seconds the public domain Screensave program gives you to arrange your front screen, there was time to flip back to the workscreen, pull the drawing window to full size, do a full redraw in 16 colours of the Columbia image and still have at least three seconds to myself before the drive came to life to save the image. And that's with no added speed-up hardware.

For safety in the education market the package is not copy protected but is dongled. Rather than stop the package from working, the dongle stops the Save and Plot routines from working, so it's possible to learn on a dongleless set-up. A good idea, and one that won't lose any friends.

Forget food. The next £99 I get is going to be spent on X-CAD Designer, it's less fattening and doesn't need to be kept in the fridge. It also happens to be the best 2D CAD package around. The Aegis Draw series are toys in comparison.

REPORT CARD

X-CAD Designer
Cadvision International
01-603 3313
£99

EASE OF USE
A complex package but one whose comprehensive menus make light work of most problems.

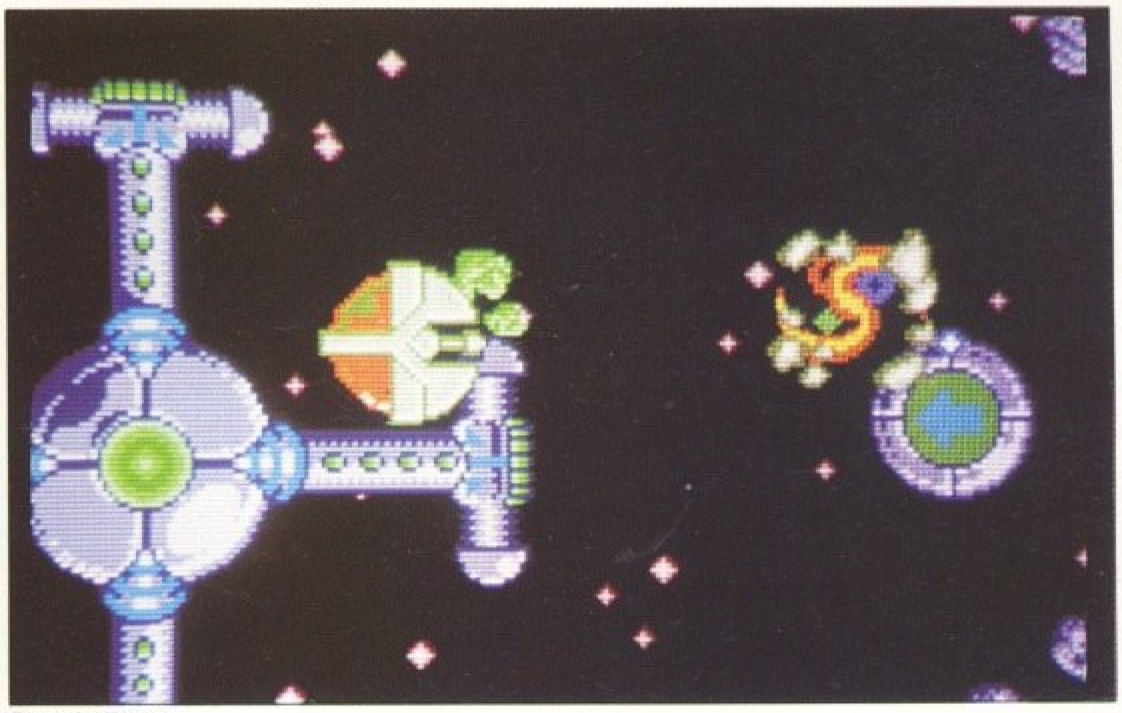
SPEED
Lightning fast, especially onscreen update. Somebody somewhere knows about custom chips.

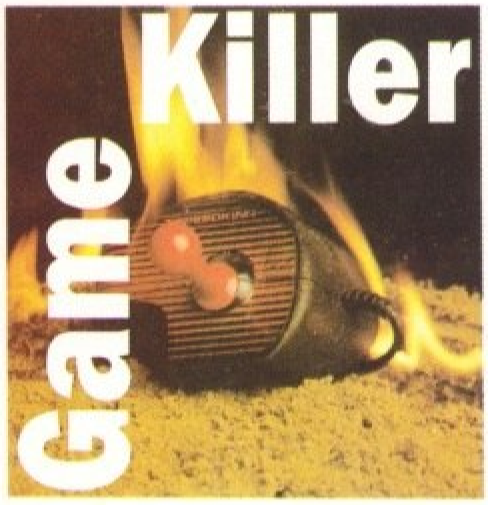
VALUE
For what it offers, an absolute steal. There's enough here to tempt the most casual draughtsman.

OVERALL 93%

With these features, at this speed and at the astonishing price, X-CAD Designer should become the standard 2D CAD package for any machine.

Hack, hack and away


Cosmic Pirate



Max Tennant, the man with an appetite for winning, offers some helpful advice from the cheating kings of Europe

WHATEVER the means, play to win – that's what I always say. Well, not always, sometimes I say: "Big Mac, regular fries and a large orange", but only at lunchtime. And I need the calories to help me in the battle against alien hordes.

If you want to diet and win take a gander at a hint an' a poke from "Slim" Justin Gananovic. A man who knows his onions, JG has scrambled Chuckie Egg 2 with a cheat mode. He's found that if you type ENABLE--F2 into the high score table it will give you infinite lives. Note the two minus signs before the F2.

While holding down F2 you can move into any adjacent room by pushing the joystick in the direction of that room. Remember, you read it here first. Chuckie Egg 2 poachers will be shot on sight.

Justin's cooked up a peach of a poke for Grandslam's Pac-Land. Did you know that the name Pacman comes "Pacu" the Japanese word meaning "to eat"? What a yummy fact.

As ever, type the poke into AmigaBasic, save it, swap discs to put the Pac-Land disc in the drive and run the poke. The disc *will* produce an error when the Pac-Land disc is inserted into the drive.

```
REM INFINITE LIVES FOR
REM 'PACLAND'
REM COPYRIGHT 1989 AMIGA COMPUTING.
REM BY JUSTIN G.

tot=0
FOR n=512000& TO 512140& STEP 2
READ A$
A=VAL("&h"+A$)
tot=tot+A
POKEW n,A:POKEW (n+142),0
NEXT n
IF tot=697474& THEN GOTO section2
PRINT "THERE IS AN ERROR IN THE DATA."
END
section2:
cheat=512000&
CALL cheat

DATA 6100,0044,337C,0002,001C,42A9
DATA 002C,237C,0000,0400,0024,4BF9
DATA 0006,0000,234D,0028,4EAE,FE38
DATA 4CFA,00FF,0012,48F8,00FF,0300
DATA 3B7C,0300,00BC,4EED,000C,33FC
DATA 4E71,0000,370E,4EF8,0400,2C79
DATA 0000,0004,93C9,4EAE,FEDA,45FA
DATA 009C,2480,43FA,0086,4EAE,FE9E
DATA 43FA,002E,4280,4281,41FA,0014
DATA 4EAE,FE44,43FA,001E,45FA,006A
DATA 234A,000E,4E75,7472,6163,6B64
DATA 6973,6B2E,6465,7669,6365
```

Next on the menu is a cheat mode for Cosmic Pirate. This comes from John Pickford, who ought to know such things because he wrote the game! Still, John wins a Konix Speedking and a mystery game, like all the other guests at Max Tennant's table, for serving such an interesting titbit.

There is a requester within Cosmic Pirate which gives access to the built-in cheat mode. To get there press the spacebar to pause, press full stop, and a requester will appear. Now type GZAIMASEN and there should be a sound effect to tell you that you are in cheat mode. This makes you invincible.

Once in cheat mode you can choose which spacetruck to attack by recalling the requestor and typing GIMMESHIPx where x is A-Z. This only works before entering the sector with the spacetruck.

MORE food for thought is on offer from Jason Freeman. His tip is for Lombard RAC Rally. If you get as far as the full rally you will know that to repair your car by pressing W takes time. It is so annoying when you get to the last leg and then run out of time. So wait until you cross the finish line on any course and then press W. You will find that when you return to the game after fixing the Cossy no time has gone from your clock.

The unfortunate thing is that you have to do that course again, but this is not too bad if you go slow. Make ►

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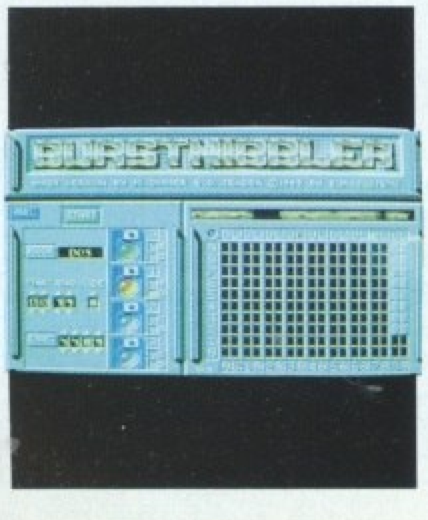
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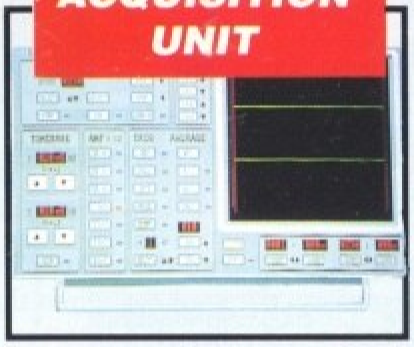
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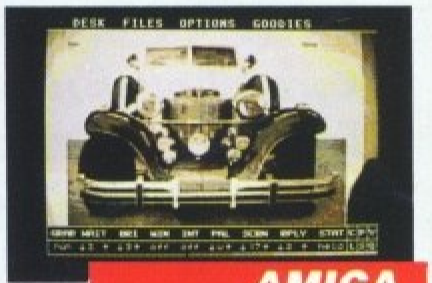
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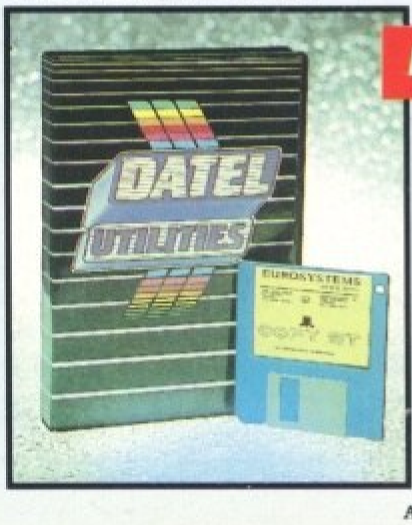
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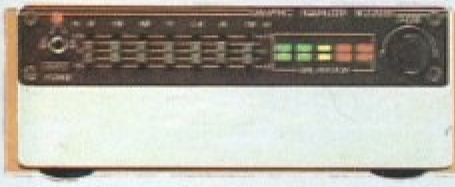
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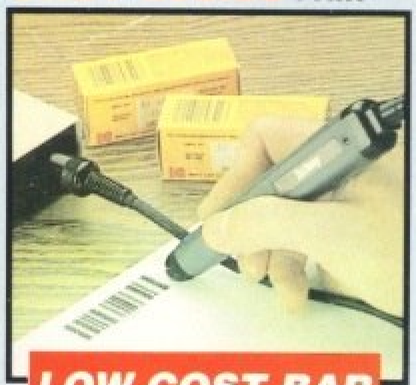
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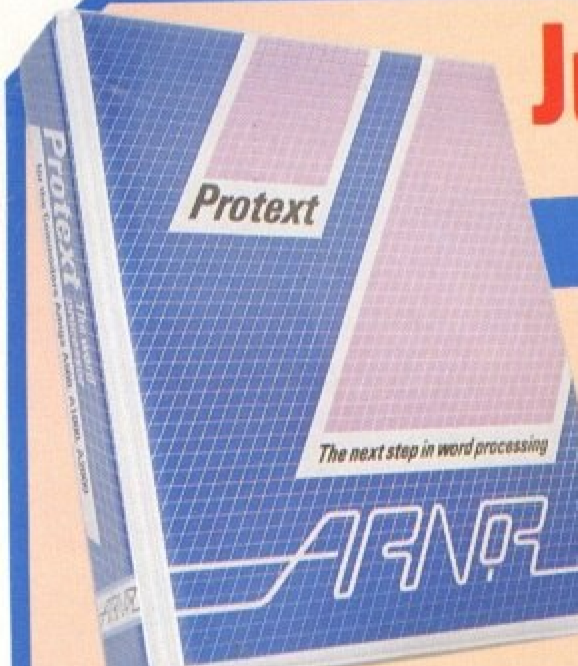
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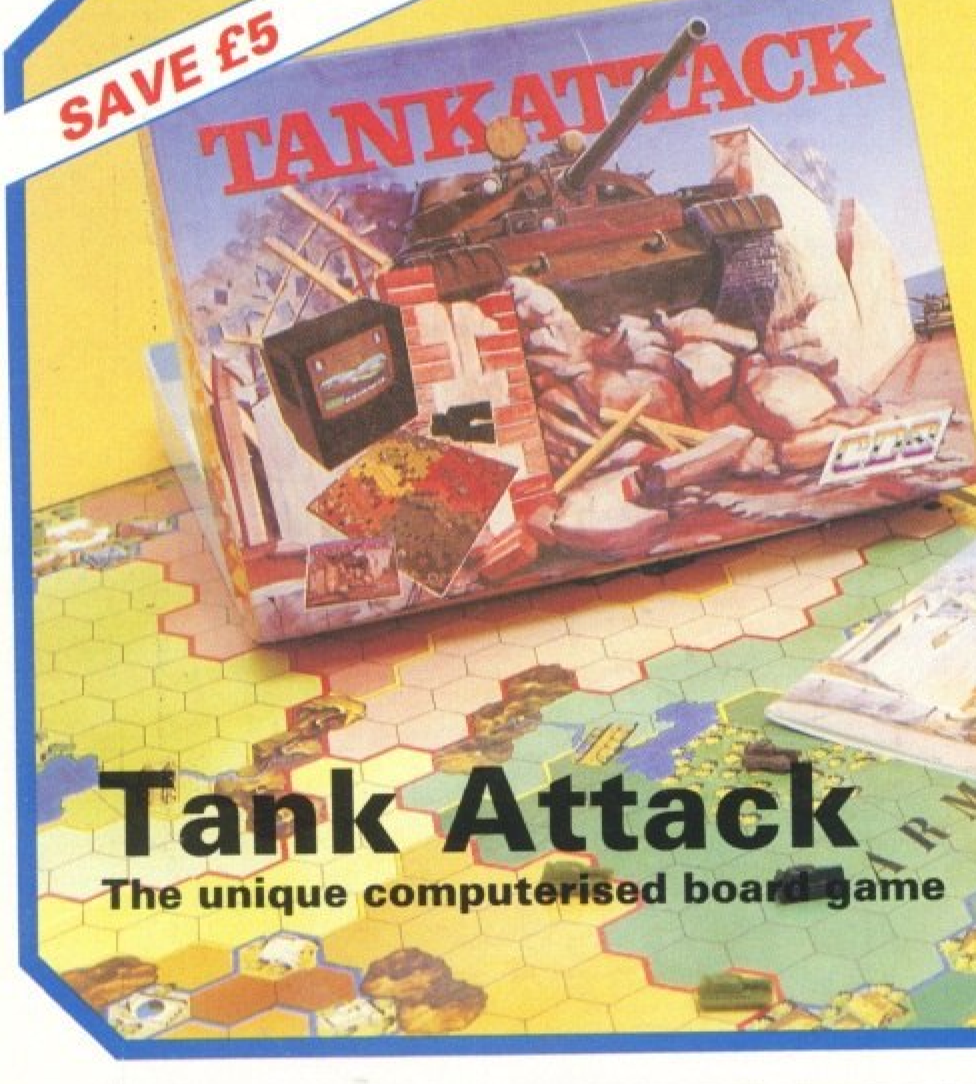
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'...merely the best word processor for the Amiga'

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Tank Attack is a computerised board game for two, three or four players, where each one takes the role of a General commanding a country's Tank Corps of one or more armoured divisions.

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Navroz Billing hints for Joan of Arc

Defence of the wall: As soon as the screen changes start pressing fire to launch rocks. Use oil when time is short or when two or more enemies are coming up the same ladder. Even though it says that oil is limited, there are at least five cauldrons at your disposal.

Entry into town: As soon as the screen has loaded push right and keep pushing right until the end. When an enemy appears keep fire pressed until he is slain. Release fire and your man should run right up the drawbridge. Repeat this until you get into the town.

Attack on the wall: Push the joystick forwards as soon as the screen changes. Keep pushing forwards until the wall is taken. Use the fire button to ward off the rocks until the top is reached.

Game strategy: At the start of the game Orleans must be taken. Select Start A Campaign and then Displacement to move north into Orleans. Here you should encounter your first battle.

Battle warfare: Hold your ground and wait to be attacked. As soon as the enemy move, shower them with arrows and then with mortars. Move your troops forward to protect your archers and send your cavalry out (they are likely to be killed). While your troops are fighting, remember to fire your arrows if the remainder of the enemy moves forward to attack.

On the defeat of the enemy, choose Offensive and attack Orleans. Use the Entry in to town and "Attack on the wall" tips to succeed. After capturing Orleans move north east into Champagne and take Rheims to crown the king. After the coronation move north taking each town in every province until you have reached the northern-most province. Sweep anti-clockwise until each province has been taken.

Joan's army soon becomes depleted; choose Royal Army and then Modification to top up her army. About 2,000 archers and 3,000 troops are enough. To pay for this collect the tithe in September but forget about the other taxes. This will avoid any uprising, but means that you will have to ransom some hostages. Choose Diplomacy and then Liberation, deal with Henry VI and use Regnault of Chatres and Tremoille as ambassadors, the meeting place does not really matter.

Ransom demand guidelines	
Duke of Bedford	£4,000,000
Duke of Warwick	£2,000,000
Duke of Gloucester	£2,000,000
John Talbot	£1,000,000
Count of Suffolk	£1,000,000
Cardinal of Winchester	£1,000,000
Captain Falstaff	£1,000,000

If you are really desperate halve the ransom. If your coffers are overflowing, execute one of them using the Royal Justice menu, which will reduce the number of armies that Henry VI can control.

Any French characters caught should be executed promptly. If there are no hostages when payday comes choose Helping Hand and kidnap one. Do not try for the Dukes because these attempts are most likely to fail. Remember to pay well – £20,000 is the right incentive. If Joan is caught, Richemont, war general, is a good replacement.

◄

sure that you are still rolling when you press W and don't stay in the workshop too long.

BRUMMIE Mark Syrer has a feast of fried aliens now that he has discovered a cheat for Goldrunner. Press F2, F5, F4, F3, one at a time in that order. You then have infinite lives, energy and speed. He's a master of good taste, since Mark says: "I did have a Spectrum and got my Amiga one week ago. And I have already sent off for a subscription". Good on you, Mark

Here are some sugar-free sweeteners for a couple of coin-op converts from Daniel Moore. When playing Gauntlet II you can avoid tricky levels by pausing the game and waiting for three minutes. Press fire and all the walls turn to exits. This happens anyway, but if you pause you don't lose energy and have time to boil an egg.

To get into the secret room clear the dungeon completely, picking up the super shots last, then go to the exit without pressing fire. Now you have that licked you'll want to play Arkanoid II – Revenge of Doh. Well Daniel can't suggest any tips, but says when loading hold left mouse button down to reveal Robocop title page.

HUNGARY for victory, and that doesn't mean marching over the Black Crisu from Transylvania. Kevin Saunders offers some morsels of information for Dark Castle, Insanity Fight and Backlash. "Please use them in your fab magazine", he creeps.

Dark Castle: The first thing you do is to go to the shield room. Once there, press (W) up and (S) down. Keep them both pressed – Kevin used a couple of size D batteries to weigh them down. This will now cause your hero to go up and down between the two screens. After half an hour or so you'll have about 25 lives. This is the only screen you can do it on.

Not content with just giving tips Kevin sent in a couple of diagrams.

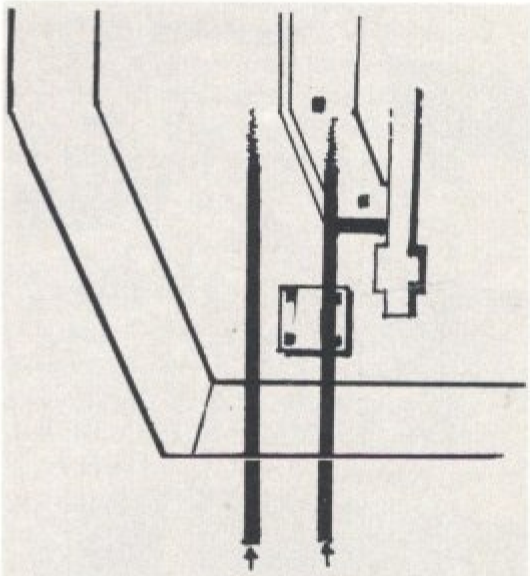


Figure I: Insanity Fight target

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Figure I refers to Insanity Fight. When shooting the mothership, slow speed to zero, move to the left side of the ship and shoot so that your bullets just miss the large gun on the left.

Figure II is for a Backlash tip. Move to a position where you can shoot "both" enemy holes. Continually shoot so as not to give the enemy a chance to come out of the hole and shoot you. When a single missile comes straight at you, move left or right, not up or down because once you have shot it, you'll want move back to the same position.

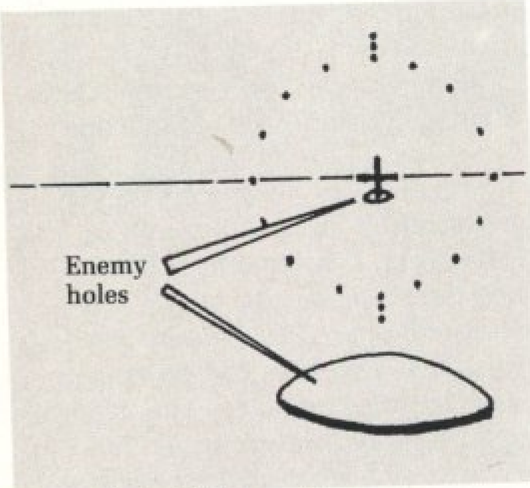


Figure II: Backlash position

Ralph Bolton and Kieren Pitts have some delicious hints for Spectrum Holobyte's megagame Falcon. After takeoff, press A and your autopilot will take you to your target. To go one stage further engage constant autofly below 500 feet. Switch the radar off and turn on the afterburners. If any MiGs start to track you the autopilot will turn for face to face combat.

Decrease thrust to military power, turn on the radar borescan mode. When the enemy is at two miles, send off a short burst of rounds, and damage a MiG.

If you get hit and your engine flames out, don't bail out, head for home. Press Help and + on the numeric keypad and keep them pressed. The F-16 will stay level and drop down. Switch to tracking mode and rotate to side view. Just before you touch down, pitch up the nose and the plane will land perfectly every time. Select end mission and you will be rescued, even if in enemy territory.

If you fly from takeoff on a heading of 00 from your airfield you will find a section of road not displayed on the map. On this section of road there is a convoy of lorries for all the trigger happy people out there to destroy.

WELL thanks guys. What a great selection of tips, and don't forget that you can seek fame, a free game and a Konix Speedking joystick by sending your own, *original* tips to me, Max the Hax.

Amiga Computing, North House,
78-84 Ongar Road, Brentwood,
Essex, CM15 9BG.
Yuppies can fax me on 0277 234529.

AMIGA Letters

Getting into video action

RECENTLY I purchased an Amiga 500 to improve my video productions. However I fear that I may have bought myself a heap of expensive trouble. Before the Amiga I had a Commodore 64 and a Datasoft Disc known as Video Title Shop. This package does a fantastic job for my video productions.

The program is in two parts: A simple paint package which allows you to create a canvas such as a picture of a birthday cake, and a more complex part which allows you to fizzle it in, then on the next page you can get any size and colour of font, and either scroll, brush, pop, wipe, fizzle, cycle, and so on on to your chosen picture.

The best part is that the canvas can be changed at any point, giving an excellent introduction. Is there anything like this for the Amiga?

Nigel Gregory,
Blackburn.

Give HB Marketing a call on 0895 444433. It has a couple of suitable programs – Video Gen Master and Video Wipe Master.

Extracting information

SINCE I bought the Amiga I have been wanting to write to someone about the problems I have been having with it, but, because of my bad English (I am Italian and hate writing) I always felt discouraged to do so.

I tried to collect background information and I bought and almost entirely read all the reference books. My problem stems from the documentation assuming a knowledge of Assembler, C or Basic and sometimes two of these together. At college I have studied Pascal.

It follows that when something is explained everything is fine until I get to the examples which, instead of clarifying what had been discussed, get me stuck because I do not understand the language.

One of my problems is how to use system routines within my programs. The Metacomco Pascal compiler v1.25 I have got does not tell you a lot about this. Another problem is how to access system devices, for example to redirect my output to the printer.

Another is how to allow Pascal to make use of raw input, useful for writing real time applications. All the information I need is in these books I know, but there is no way I can manage to get it out of there.

It would be inconvenient to learn other languages just to be able to understand how to use some routines. They were supposed to be available to any language that supported them.

Danilo,
Italy.

Byte Bandit unmasked

I WAS quite surprised to read in the latest *Amiga Computing* a letter from Navid S. Qureshi of Stirling, which I could have written, word for word, myself.

However your reply seems to have missed the point, that the discs are totally unused and have no information on them before attempting to format. In my case, after Diskdoctor, the discs can still not be initialised and I suspect that that also applies to Mr Qureshi.

This problem has not occurred before but has only arisen in the last few days. I have tried eight new discs, including Commodore ones, in DF0 and DF1 using WB 1.2 and WB 1.3, using CLI and Shell, and pulldown Initialise, with no success.

If you cannot help will you please tell me how to get in touch with Mr Qureshi to see what else he has done, and to look for other solutions to the problem? Thanks

D J Lewis,
Newbury, Berks.

Further research into Navid's problem has led us to conclude that the disc he was using to format the discs with was infected with Byte Bandit.

Write to: The Editor, Amiga Computing, 78-84 Ongar Road, Brentwood, Essex, CM15 9BG. We'll send the writer of the best letter each month a program from our goodie drawer.

Monitor modification

TRYING to decide between purchasing the Amiga or the Atari ST I decided to buy a magazine featuring each one to help me reach a decision.

After browsing at the newsagents I came to the conclusion that your magazine was the most comprehensive. Would I be able to have a Cub colour monitor that I used with a QL modified for Amiga use?

S.A. Kent,
Horsham

The Amiga is the obvious choice. You could have the QL monitor modified but Microvitec, which makes the Cub monitor, advises against it as being expensive. This would still be the case if you made the mistake of buying an ST.

Printing with Okimate 20

HAVING just bought an Okimate 20 printer for my Amiga, I have encountered a number of faults, but I am not quite sure whether it is the fault of the computer, printer or operator. I confess to not knowing very much about the computer, programming and CLI.

The first problem arises from printing text. I have tried eight word processors and none of them has proved adequate. There are little faults with all of them. Prowrite II prints out OK in NLQ but insists on putting in double spaces at random intervals and adding extra blank lines. Scribble prints out in NLQ mode when first loaded, but subsequently

▶

AMIGA Letters

prints only in standard mode.

When outputting graphics with any software the printer selects the wrong portion of the ribbon using blue and red first.

Could you also tell me of any place which sells an adequate paper to use with the printer as any tiny variation on the original type of paper produces sub-standard prints. Thank you very much.

Richard Biltcliffe, Manchester.

See if you can try your Oki with WordPerfect, which has its own driver for the Okimate 20. It is also worth trying Workbench 1.3 preferences. Make sure that the cable is OK and that you have Amiga, not IBM roms in the printer. The Okimate distributor in the UK, X-Data (0753 72331), should be able to help.

Don't open the box

SOFTWARE can solve Ray Harris' problems with the extra memory (*Amiga Computing* May 1989). There is an answer other than dismantling his machine for the sake of stroppy games.

Firstly there is a commercial program called Int-Switch available from George Thompson Services (077-082 234). Secondly I own a PD program called Boot which checks to see if you have extra drives and memory and asks if you would like to disable them.

It then allows you to softboot, three finger reset, administer a vulcan death grip, call it what you will and the settings survive leaving you with a disabled drive and or memory, so you can play your autoboot game (yawn) or use some other practical software.

I got my copy from 17 Bit Software, those awfully nice PD people, who are on 0924 366982.

Chris Cannon, Romford.

Sum problem

I NEED a program that will convert decimal numbers into binary, octal, hexadecimal, binary coded decimal, unsigned integer, signed integer, high order integer and floating point numbering systems and also convert between themselves hexadecimal-binary, binary-octal octal-hexadecimal for my work involving programmable logic controllers.

Do you know of any PD programs that will help me or of any commercial software that I could get hold of? Or could you tell me how to go about writing my own program in Basic – could a decent spreadsheet or maths program help me?

Peter Orford, St Helens, Merseyside

WordPerfect Library, reviewed last month, includes a calculator with these functions, but it is expensive. We suspect the solution is to knock together a Basic program.

Looking through the AmigaBasic manual there are keywords for octal and hex. You will have to write your own routines for binary – a fairly simple problem.

The only type of number not catered for is binary coded decimal. A full answer would take up more space than we have here. Start at the local library by digging out some books on computer science then translate the formulae into Basic.

Booting a Basic program

HOW can I boot an AmigaBasic program using CLI via the Startup-Sequence? I already know how to access this facility to load up and access a file by typing in its filename, but I do not know how to load an AmigaBasic program.

And how can I make AmigaBasic wait for a certain length of time before carrying on to the next command without using a FOR ... NEXT loop?

In the CIRCLE command an aspect can be stated, so defining an arc or a perfect circle. The approximate aspect is stated at 0.44 in the AmigaBasic User's manual, but is shown to be not accurate if a large circle is drawn.

Do you know of a better aspect ratio, or perhaps how to convert the screen so that no aspect is needed for a perfect circle to be drawn, as it is very frustrating?

Andrew Roberts, Cheltenham.

Autorunning an AmigaBasic program is easy. First get yourself a blank formatted disc ready. Next, transfer on to it a copy of AmigaBasic and a copy of your program. Finally, create an S directory and use a text editor to put a Startup-Sequence into it that contains the line:

```
AmigaBasic MyProgram
```

where MyProgram is the name of your Basic program.

That's a "bare bones" disc. Depending on what your program do, you may need other essential files from the Devs, L and Libs directories.

```
time=TIMER:delay=10
WHILE (time+delay)>TIMER:WEND
```

waits 10 seconds, but there is usually a better way to present information than by forcing the user to wait a set time.

The need for an aspect ratio comes from the screen resolution being 640 by 200, which is 2.25:1. A more accurate figure is 0.4444444444444 recurring or 1/2.25.

Moving along with animation

MY interests lie in the field of art and animation. At present I have Deluxe Video and Deluxe Paint II and am contemplating the purchase of Aegis Animator and Images along with a music compilation software of some type as a suitable package.

But here are my main "expansion" considerations: Should I invest in an A501 memory extension, a dual 3.5in second/third disc drive, a single floppy drive or upgrade completely to a more powerful machine such as an A2000?

Marcus Barrett, Somerset.

We would go for Deluxe Paint III as an animation package. If you have DPaint II it is a cheap upgrade (£30), and very easy to use. You will need at least 1 meg of ram, preferably more if you want to produce a decent animation.

A second drive of some sort is a must, and for these reasons we would go for the Commodore A590 Hard Drive Plus. You can add ram more cheaply than buying an A501 and it saves floppy shuffling because everything fits on to the hard disc.

Mail order snail service

I HAVE used the services of a number of mail order companies and have had no problems from such companies as Trilogic. However, I must mention that there is at least one black sheep, in the form of Cestrian Software.

The service from these people has been quite pathetic. I have been waiting for two and a half months now and, despite repeated phone calls they refuse to give me the goods I ordered or my money back.

G Dash, Maidenhead.

Amiga Computing Mail Order Offers

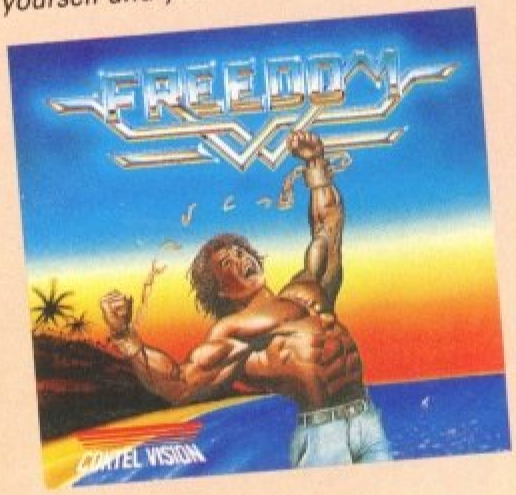
Freedom

A fascinating game of strategy and role-play combined with gripping combat.

In the 18th century in a tropical plantation of a sugar producing colony, as the leader of a slaves' revolt, you are attempting a heroic escape towards freedom.

In the game you can select the level of difficulty, choose your character's personality, rally round other slaves, set fire to buildings and fields, challenge your enemies with the cutlas and confront the fearsome hounds set at your heels.

But will you succeed in your efforts to liberate yourself and your fellow slaves to freedom?

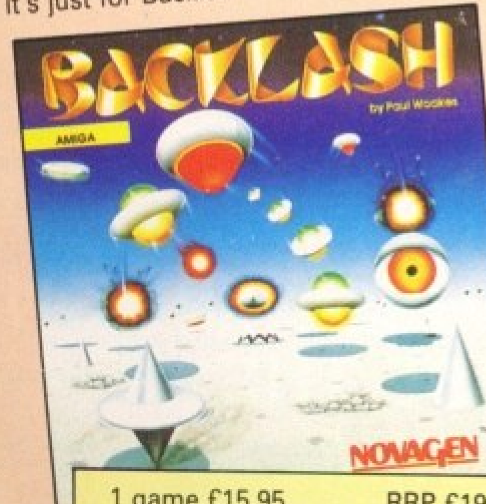


Backlash

This really is a game that any arcade fan should have in their collection!

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20,000 Leagues under the Sea

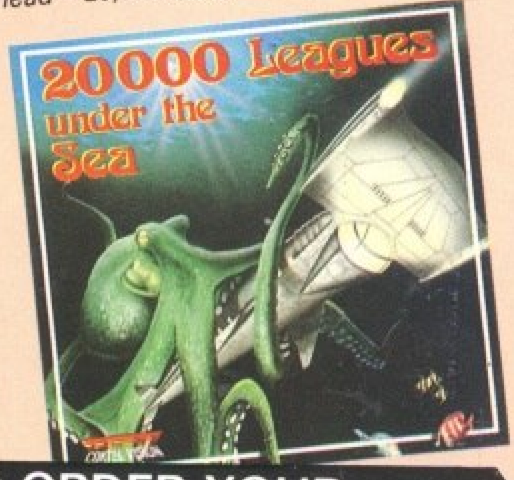
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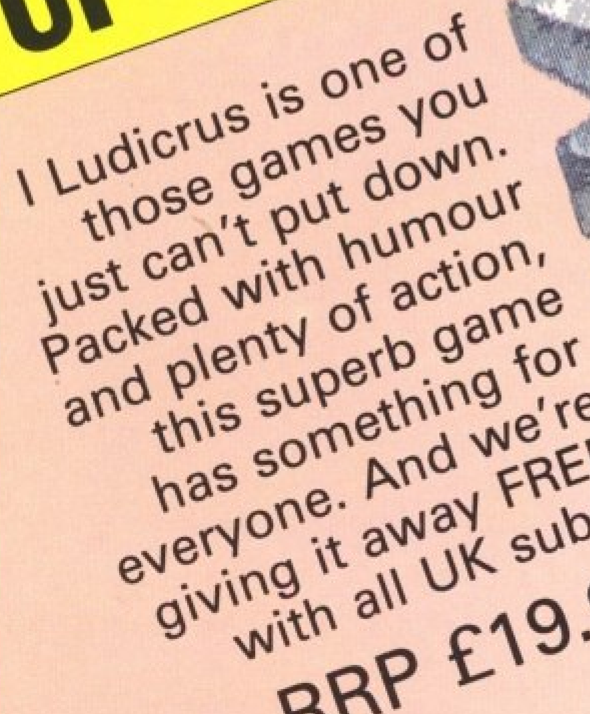
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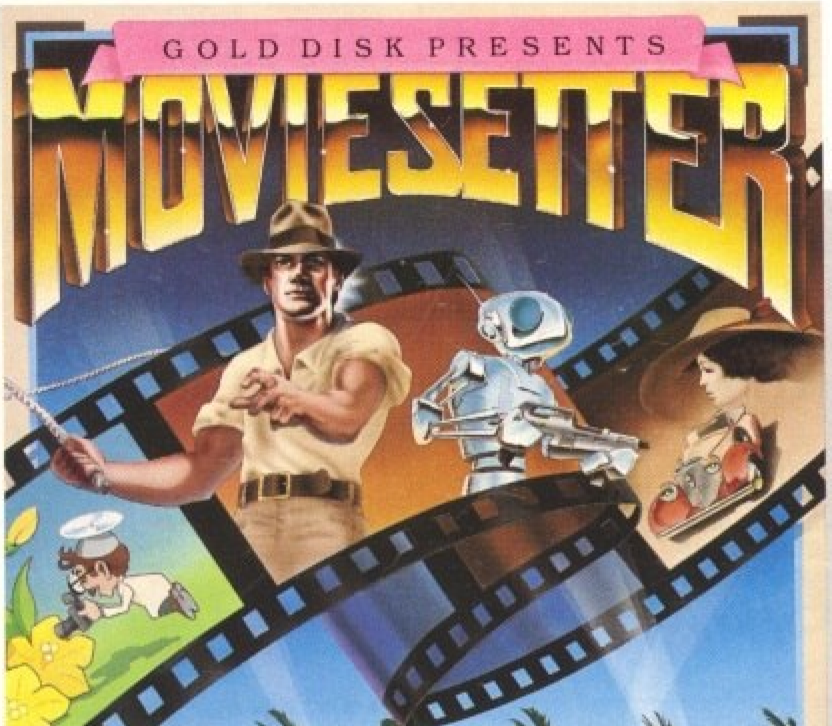
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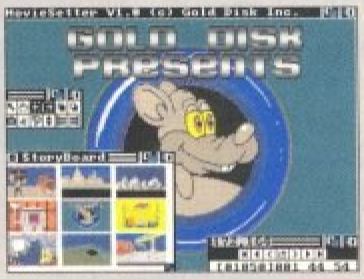
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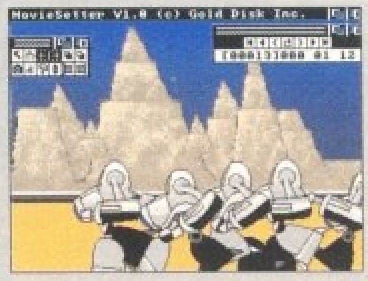
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